

# Feasibility Study for



## WESTFORD TOWN HALL

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**January 12, 2009**

## TABLE OF CONTENTS

<b>Introduction.</b>	4
<b>Executive Summary.</b>	7
<b>Existing Conditions.</b>	11
<b>Space Programming.</b>	29
<b>Alternative Solutions.</b>	33
<b>Design Options.</b>	38
<b>Cost Estimate.</b>	51
<b>Recommendations.</b>	60

### List of Figures

Figure 1: Joint in soffit and frieze trim.	11
Figure 2: Foundation joint.	11
Figure 3: Historical photo of Town Hall.	12
Figure 4: Current front of Town Hall.	12
Figure 5: Second floor office space.	12
Figure 6: Dead ended stair flight.	13
Figure 7: Wheelchair lift.	13
Figure 8: Basement garage door.	13
Figure 9: Fire escape.	13
Figure 10: Municipal buildings on shared site.	14
Figure 11: Plaza in front of police station.	14
Figure 12: Central hallway.	16
Figure 13: Rotted column base.	18
Figure 14: No flashing at window trim.	19
Figure 15: Condenser with protective roof.	23

Figure 16: Cast iron column. . . . .	29
Figure 17: Storage boxes in offices. . . . .	30
Figure 18: General office. . . . .	31
Figure 19: Private office. . . . .	31
Figure 20: Roundenbush building. . . . .	33
Figure 21: Missing slate and old flashing. . . . .	34
Figure 22: Parking behind RCC. . . . .	34
Figure 23: Frost School building. . . . .	35
Figure 24: Franco-American Club. . . . .	36
Figure 25: Existing first floor plan. . . . .	41
Figure 26: Existing second floor plan. . . . .	42
Figure 27: Existing Main Street elevation. . . . .	43
Figure 28: Scheme B2 first floor plan. . . . .	45
Figure 29: Scheme B2 second floor plan. . . . .	46
Figure 30: Scheme B1 and B2 Main Street elevation. . . . .	47
Figure 31: Scheme D2 first floor plan. . . . .	49
Figure 32: Scheme D2 second floor plan. . . . .	50

**List of Tables**

Table 1: Space program. . . . .	32
Table 2: Outline specifications. . . . .	54
Table 3: Base bid cost estimate summary. . . . .	59

## Appendices

A: Request for Proposals. . . . .	62
B: Structural Engineer's report. . . . .	63
C: Mechanical and Electrical Engineers' report. . . . .	64
D: Code analysis. . . . .	65
E: Space needs questionnaire . . . . .	66
F: Comments from town boards and committees. . . . .	67
G: Design schemes. . . . .	68
Scheme A1. . . . .	69
Scheme A2. . . . .	73
Scheme B1. . . . .	77
Scheme C. . . . .	80
Scheme D1. . . . .	84
H: Cost estimate. . . . .	87



## INTRODUCTION

The Town of Westford, acting through its Board of Selectmen and the Permanent Town Building Committee (PTBC), commissioned a programmatic and architectural feasibility study to explore the expansion and renovation of the Town Hall located at 55 Main Street. (See Request for Proposals in Appendix A.) Kang Associates, Inc., as leader of the Design Team, worked with the PTBC and the Town Manager's office, inspected the existing building, reviewed available previous documents, and coordinated engineers and other sub-consultants. This report is the culmination of these efforts which spanned a period of approximately six months.

The PTBC was responsible for providing guidance to the Design Team. Members of the Committee are:

Thomas Mahanna, Chair

Karen Cavanagh

Nancy Cook

Paul Davies

Doug Fannon

Kirk Ware

The Board of Selectmen also actively participated in the process, making final decisions. Selectmen are:

Robert Jefferies, Chair

Jim Sullivan, Vice Chair

Valerie Wormell, Clerk

Nancy Rosinski

Kelly Ross

Initially, Assistant Town Manager Norman Khumalo, serving as Acting Town Manager, oversaw the process. Later, Jodi Ross, assuming her new role as Town Manager in August 2008, provided direction and served as liaison to the Board of Selectmen. In addition, John Livsey, the Town Engineer, contributed invaluable assistance throughout the process of the study by distributing questionnaires and facilitating communications.

Individual Design Team members who contributed their expertise to this study and the resulting report are:

<u>Architect:</u>	Kaffee Kang Kang Associates, Inc.
<u>Structural Engineer:</u>	Richard Foley Foley & Buhl Engineering, Inc.
<u>Mechanical/Electrical Engineer:</u>	Bruce MacRitchie Howard Gerber MacRitchie Engineering, Inc.
<u>Cost Estimator:</u>	Charles McGrory D.G. Jones and Partners, Inc.

The following existing documents were reviewed and provided important background information:

- Westford Police Facility, sheets A1.01, A 1.02, A4.01, A4.02, A4.03, dated 8/4/97, prepared by Kaestle Boos Associates, Inc., New Britain, CT.

- Westford Police Facility, sheets C-1 through C-6, dated 8/4/97, prepared by David E. Ross Associates, Inc., Ayer, MA.
- Westford Police Facility, as-built drawings C-3, C-4, C-8, and C-9, dated 2/6/01, prepared by C.J. Mabardy.
- Structural Evaluation Report, dated November 29, 2007, prepared by Ipswich River Engineering, Inc., North Reading, MA.
- Existing floor plans, dated May 1, 2008, prepared by Richard M. Monahon Jr. AIA Architects, Peterborough, NH.

## **EXECUTIVE SUMMARY**

In December 2007, after structural failures were discovered and evaluated, the Town Hall's occupancy permit was revoked and the building was closed. Municipal offices were hurriedly dispersed to various other municipal buildings throughout the town. This emergency situation triggered the need for this feasibility study to look at the future of the Town Hall building. Located in a National Register District, the Westford Town Hall was built in 1872. As a typical example of New England vernacular architecture with its eclectic combination of styles, this structure has become a local landmark in the community. There is evidence of some major alterations to the original building in the distant past. But only incremental changes have been made to the building through modern times, undoubtedly in response to needs as they arose. Aside from these modest modifications, no comprehensive upgrades have been made to the building to adapt it to current-day functions and needs.

### **Existing Conditions**

Inspections of the existing building and site conditions were conducted by the architect, structural engineer, and mechanical and electrical engineers. Deficiencies are identified and improvements recommended to bring the building into compliance with current codes and up to serviceable condition.

Proposed architectural work include repair of exterior wood sidings and trims and roofing, new flashing, replacement windows, a new egress stairway, additional thermal insulation, replacement of interior finishes, and handicapped access components. The existing wood structure requires major repairs to existing beams and joists. Completely new plumbing systems within the building are proposed. A completely new sprinkler system throughout is recommended. Proposed heating,

ventilating, and air conditioning (HVAC) work include a new hot water boiler, new heat distribution system, and new ventilation and air conditioning systems. Proposed electrical work includes a new three phase electrical service, all new power distribution systems, new lighting, and a fire alarm system.

## **Programming**

Space needs were investigated through a questionnaire distributed to municipal department directors. Staff generally find town offices cramped and inadequate. Some department directors indicated a need for privacy. Staff and many volunteer committees have the need for shared public conference rooms of various sizes. The space needs of the town archive were identified through a separate study and incorporated into this study. The resulting space program reveals that the needs of the municipal offices cannot be satisfied in the existing two floors. After her engagement in August 2008, the new Town Manager reviewed staffing needs and provided direction for some modest programmatic reductions. The revised space program was used as the basis for additional design concepts.

## **Alternative Solutions**

Expansion of the existing building is required to meet identified space needs. In anticipation of questions from the public and the Board of Selectmen, the PTBC requested that three buildings be cursorily evaluated for their potential to be developed into town offices. Two of the buildings are old schools owned by the Town and currently occupied by the Roudenbush Community Center, a financially self-sufficient town department. The third building is currently privately owned and occupied by the Franco-American Club. Use of each of these buildings as a town hall or town hall annex was determined not to be cost-effective.

In addition, the PTBC requested that the land area behind the police station be evaluated for its potential to be developed for a separate town archive. The extent of wetlands, distance from the Town Hall, and neighbors' proximity all contribute to the impracticality of using this land.

## **Design Options**

The existing site is very restrictive, limiting locations for additions. Five design options for expanding the Town Hall were initially presented to the PTBC. All schemes include the same recommended improvements to the building envelope and systems and code upgrades, identified as deficient during existing conditions inspections. The schemes are differentiated by how they address space needs, offering a full range of possibilities. The PTBC selected Scheme B2 as the preferred one because it provides the maximum amount of usable space, including some expansion space.

After input from the Board of Selectmen and other town boards and discussions with the new Town Manager, two additional schemes were developed to reduce the size of the expansion. Cited for its balance of fiscal responsibility and functional needs, Scheme D2 was selected by the Board of Selectmen for further development.

## **Cost Estimate**

A construction cost estimate was prepared based on Scheme B2 and the recommended scope of work. The total cost was estimated to be approximately \$4.5 million. To promote an understanding of relative costs, the estimate was separated into renovations and the three distinct pieces of the expansion. An add alternate for a staff parking lot was estimated to be approximately \$88,000.

## **Recommendations**

In October 2008, Town Meeting voted to continue developing the design for the expansion of Town Hall, affirming the taxpayers' desire to keep the seat of their government in its town center location. With the selection of Scheme D2 as the preferred design concept, the Board of Selectmen have made a commitment to include a large meeting room and a town archive in the expansion of Town Hall. As the project moves forward, the design needs to be further developed to meet the specific needs of occupants, coordinate with existing conditions, and comply with applicable codes.

## EXISTING CONDITIONS

In December 2007, the Westford Town Hall was declared unsafe for occupancy. Structural evaluations revealed failures in beams and joists resulting from overloading conditions. Offices were relocated to various other municipal facilities throughout the town. This emergency situation arose from the inability of the old structure to meet modern-day needs. Rather than a quick fix, the Town had the foresight to seek a more comprehensive approach of identifying all existing problems and concerns that need to be addressed.



Figure 1: Joint in soffit and frieze trim.

### History

Located in a National Register District, the Westford Town Hall was built in 1872. Through its history, it has functioned as a town hall and, perhaps for a period as a school, for the people of Westford.<sup>1</sup> It has witnessed a number of alterations, some major and some minor, through the years. It appears that the original structure was expanded to the rear, shortly after it was built. This addition included the stage area on the second floor. Evidence that the rear section is an addition include the change in foundation and siding materials, visible joints in exterior and foundation materials, and differences in floor framing. (See Figures 1 and 2.) Old photographs and drawings reveal that the



Figure 2: Foundation joint.

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<sup>1</sup>Inventory No. WSR.8, Massachusetts Cultural Resource Information System database.



tower and the front façade have also been altered significantly from the original design. (See Figures 3 and 4.)



Figure 3: Historical photo of Town Hall.



Figure 4: Current front of Town Hall.

Other changes to the building appear to have evolved as needs arose. The second floor of the Town Hall was originally designed as an assembly hall with a stage and a balcony. When town offices outgrew the first floor, they expanded to the unused second floor. Partitions were erected, but the stage and balcony were never removed and acoustic ceilings were hung above the new partitions. (See Figure 5.) The original symmetrical stairway, however, was modified to eliminate one side of the upper flight. (See Figure 6.) When handicapped access into the building became an issue, an exterior wheelchair lift was added to the rear of the building. (See Figure 7.) When the old heating system became unserviceable, it was replaced with individual



Figure 5: Second floor office space.



Figure 6: Dead ended stair flight.



Figure 7: Wheelchair lift.

furnaces and condensing units. A concrete slab was placed over the dirt floor in the basement, undoubtedly to improve the conditions for storage. For the same purpose, a heavy duty reinforced polyethylene was carefully applied to the inside of the stone

foundations in the basement and a number of sump pumps were added. An overhead residential type garage door accessing the basement was added at the rear of the building. (See Figure 8.) And a steel fire escape was added as a second means of egress from the second floor. (See Figure 9.)



Figure 8: Basement garage door.



Figure 9: Fire escape.



## Site

Westford is an affluent, fast-growing town northwest of Boston, just outside the Route 495 beltway. The Westford Town Hall is located on Main Street, next to the police and fire headquarters. (See Figure 10.)

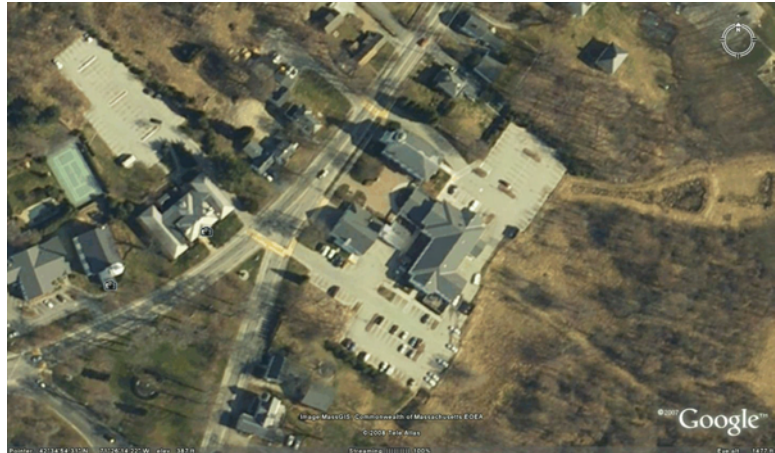


Figure 10: Municipal buildings on shared site.

The public library is across the street

and there are several churches and other community facilities in the area. Together, these buildings, along with the Town Common, a public green space, establish a identifiable and distinctly New England town center. Geographically central in the town, this area is easy to get to from all parts of Westford, as well as from major highways. And yet, prudent town planning has kept commercial development away from the town center, preserving its historical New England character.



Figure 11: Plaza in front of police station.

The Town Hall and the police and fire headquarters occupy a large town-owned property that includes a considerable amount of wetlands. The three buildings are located along the northerly edge, where the property has its only street frontage. The Town Hall and the fire station flank the police station and are sited close to the street. A relatively new structure, the police station is set back from the

street and physically connects to the older buildings with covered colonnades that have no apparent functional purpose. The three buildings together create a three-sided exterior landscaped plaza space that is open to Main Street. (See Figure 11.) Although an attractive public space, it is rarely used. Parking for public safety personnel and vehicles is located on the west side of the police and fire

stations. Parking for Town Hall staff and visitors to all three buildings is located in a lot east of the police station and south of the Town Hall. The majority of parking is not easily visible from the street. The visitors lot is small and, particularly if a large meeting room is introduced to the renovated Town Hall, some consideration should be given to accommodating more cars on site. A driveway between the Town Hall and the easterly property line leads to the visitors lot.

## **Exterior Design**

Of the three town buildings sharing the Main Street property, the Town Hall is the oldest and easily the most prominent and distinct. Designed by William Edwards and Charles Emerson, the architectural style of the Town Hall is rather eclectic and yet typical of New England vernacular.<sup>2</sup> Taller than its neighbors, the structure's verticality is reinforced by a church-like steeple over the front entrance. The tower, topped by a copper dome, makes the building visible from a longer distance, thereby marking its importance to the town and expanding its scale to a regional level. As with many buildings of its time that followed British traditions, the Town Hall is symmetrical along the long north-south axis that emphasizes its importance and lends a sense of propriety.

And yet the building remains imminently welcoming and approachable and not overly imposing. This is attributable to its closeness to the street, its lack of elaborate detailing, and its wood exterior. Whereas brick, a favorite exterior material for many town halls in the 19<sup>th</sup> century, projects a more institutional aesthetic, wood is more reminiscent of residences and other smaller scaled utilitarian structures. Although the Town Hall has some detailing, including quoins, a columned entrance canopy, window head trims, some pediment trims, and a wide frieze board, the trims are relatively plain. And finally, the building has no front yard, no foreground to allow the visitor to take in a full frontal view of its potentially most imposing elevation. Despite its symmetry, the building is always

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<sup>2</sup>Ibid.

approached from an angle. And the front doors are simply a few steps up from the sidewalk. With the advent of the automobile, the front entrance became seldom used. Instead, most visitors to Town Hall come through the back door, after they have parked their cars.

## **Interior Design**

The symmetry of the exterior follows into the interior. Just inside the front entrance on Main Street is the main staircase that leads up to the original assembly hall on the second floor. On the first floor, there is space to walk around both sides of the main stairway. On the other side of the stairway, these circulation routes join to form a wide central hallway, from which all the town offices can be accessed. Several offices have service windows along the hallway. (See Figure 12.) The central corridor ends at the rear entrance from the parking lot.



Figure 12: Central hallway.

The main stairway starts as a free-standing wide flight and separates and turns into two narrower flights at an intermediate landing. One of these flights has been closed off at the top to create a dead end. Partitions have been erected on the second floor to create office space, but the layout is very unorganized. Acoustical ceilings have been hung at the top of the window heads, but they do not meet the office partitions and there are no doors. The result is that there is no acoustical privacy in these spaces. The balcony and stage have not been removed. The build-out of the second floor, by all evidence, was done as a temporary measure to meet immediate needs.

## **Structure**

The existing structure was inspected by Richard Foley of Foley Buhl Roberts & Associates, Inc. and his letter report is appended to this report. (See Appendix B.) Framing of the first floor and the roof were inspected from the basement and the attic, respectively, where there are no finished ceilings. Second floor framing was observed through a small observation hole that was likely made during a previous independent structural evaluation by Ipswich River Engineering, Inc. Visible splits in a beam and a joist framing the second floor were observed. The report by Ipswich, dated November 19, 2007, documents multiple locations of failed beams and joists that are attributed to overloading of the second floor by the use of high density file cabinets. This structural failure is the direct result of the inability of an old structure, designed and built in the late 19<sup>th</sup> century, to meet the needs of a 21<sup>st</sup> century town hall with its extensive documents storage requirements.

The structure consists of wood floor and roof framing supported on exterior bearing walls, interior columns, and stone foundations. On three sides, rubble foundations are topped with granite blocks, where exposed to view. Exterior bearing walls are wood framed. On the first floor, interior columns are round cast iron and in the basement, columns are wood and granite. First and second floors are framed with timber beams and wood joists, connected with mortise and tenon joints. The attic and roof are framed with timber trusses.

The structural engineer recommends repairing split floor joists by sistering (adding new joists on either side of damaged joists). This, however, does not address the fact that the existing framing does not have the load capacity to meet current code requirements. Based on these requirements and his calculations, the structural engineer has determined that the size and spacing of existing floor joists are adequate, but their connections to beams and roof trusses must be reinforced for shear stresses by adding joist hangers. First and second floor beams, however, are undersized. To remedy this condition, two alternatives are possible: increasing the sizes of the beams or decreasing the spans

of the beams. Both of these solutions are proposed in order to meet the differing conditions of the basement and first floor. It is recommended that new laminated veneer lumber (LVL) beams be added under all second floor beams. This approach avoids the need for additional columns that would impose limitations on office layouts. At the same time, there is more than ample overhead space to accommodate new beams. In the basement, it is recommended that new columns and footings be added under existing beams to reduce their spans. This approach maintains the existing minimal overhead clearances which seems more critical than the impact additional columns will have on basement storage and support uses.

## **Exterior Envelope**

The exterior building envelope protects the occupants from inclement weather and the structure from deterioration. The integrity of the exterior envelope is critical in ensuring the continued stability of any building. Primary components of the exterior envelope include exterior walls, windows, roofing, flashing, and insulation.

Exterior walls are clad in wood clapboards on three sides and shingles on the south side. Both siding and shingles appear in generally good condition. There are several layers of paint and some chipping and peeling. It is recommended that damaged or rotted sidings and shingles be replaced and exterior walls be scraped and painted. Exterior



Figure 13: Rotted column base.

paint should be tested for lead to ensure proper procedures are taken during the scraping and disposal process. Unlike the siding and shingles, exterior wood trims are fair to poor condition. Some visible deterioration was observed and areas of concern were noted. Rotted trims include water table trims at bottoms of walls and column bases and cornice molding at the entrance portico. (See Figure 13.)



Figure 14: No flashing at window trim.

An area of concern that warrants further investigation are the wide window head caps. Some are covered with lead flashing that has been painted. Others are exposed painted wood. (See Figure 14.) It is recommended that all the caps be flashed and that all existing flashing be replaced.

The roofing is slate tiles. They appear in good condition. Slate is a very durable material and, theoretically, can last indefinitely. However, the roofing nails, which are likely not resistant to corrosion, may start failing, causing shingles to fall. It is recommended that the slate roofing be carefully inspected and maintained regularly to prolong its life.

A key to prolonging the life of the roofing is to ensure that flashings are functioning properly so that no moisture is allowed to migrate below the shingles. It is recommended that existing flashings be inspected and replaced as required. Many different flashing materials are available, but only those that have a durability that can match the slate shingles should be considered. These include copper, zinc/tin-coated copper, and pre-patinated copper. New copper, of course, is the color of a shiny penny. It is only after considerable time (25 years or more) that an even green protective patina develops. In the meantime, the copper will show differential staining and streaking that is often unattractive. If this is an aesthetic concern, pre-patinated copper can be used. During the manufacturing process, the natural oxidation process is duplicated and accelerated. Copper coated with an inert zinc-tin alloy is another possibility. The coating has replaced lead-coated copper for environmental reasons. It provides an even grey color that is similar in appearance to lead. At the same time, the coating provides an additional wear layer to the flashing.



It is likely that exterior walls have no or minimal thermal insulation. It is recommended that thermal insulation and a vapor retarder be added to the exterior walls. Vapor retarders are required to prevent interior water vapor from migrating into and condensing within the wall construction, rendering insulation ineffective, potentially rotting wood framing, and creating an environment for mold growth. Loose fill types of insulation can be blown into walls through holes at the top of each stud space, but a vapor retarder cannot be added and this type of insulation will settle with time, leaving voids at the tops of walls. The easiest and most effective method is to remove existing interior finishes to apply insulation. With this method, two superior options are available for insulation. Fiberglass batts have been the reliable standard for many years. Alternatively, foamed-in-place polyisocyanurate is a newer product that has some impressive performance characteristics. In addition to having good resistance of heat loss through conduction (high R-value), the foam fills into small cracks and spaces to reduce heat loss through convection. Polyisocyanurate, however, has a higher initial cost.

There is loose fill insulation in the attic floor. More insulation can be added to increase its effectiveness. But more critically, there is no ventilation above the insulation. Adequate ventilation is required to keep the roof surface cool and, thereby, preventing ice dams from forming at the eaves. Ice dams block melting snow from running off the roof, forcing it, instead to flow down into exterior walls. Water within exterior walls can cause considerable damage to interior finishes, insulation, and wood framing. Adding a continuous ridge vent and cutting in soffit vents is recommended as the most effective method of providing ventilation.

The existing wood windows have single pane glass with exterior storm sash. However, storm sash is inherently problematic. To be effective, the space between the window and the storm sash must be tightly sealed, potentially trapping moisture that can rot the wood. If the space is vented, the wood windows will not rot, but thermal efficiency is compromised. An alternative is interior energy panels. These maintain the exterior appearance of existing windows, but interior energy

panels are unwieldy to remove for ventilation and re-install when needed. New wood windows with aluminum cladding, insulating glass, and divided lites are recommended to increase thermal performance, improve operation, and match, as closely as possible, the original design. With a new mechanical ventilation system, windows do not have to operate, but the option to open windows during temperate weather conditions is usually highly desirable to building occupants.

### **Interior Finishes**

Interior finishes help protect a building's structure from fire hazards and general wear and tear. Materials characteristics, such as sound transmission, resilience, and light reflectance, combine to define the comfort and functionality of the interior environment. The existing finishes are generally showing wear and the decor is uninspiring. With interior layouts changing, all new finishes will be easier and yield better results than trying to patch existing finishes.

Existing flooring is carpeting in the offices and vinyl tile in the hallway. The main stairway has hardwood treads and painted wood risers. They are in good condition and can be re-finished. There may very well be hardwood flooring under existing flooring, but without knowing its condition, it is recommended that new finish flooring be provided throughout. Carpeting is recommended for offices. Carpeting is reasonable in cost, comfortable under foot, relatively easy to maintain, and absorbs sound. Many colors, textures, and styles are available to create an attractive floor finish. New carpeting should be commercial grade nylon loop type, directly glued down to underlayment. This method of securing carpeting increases durability although some resilience is sacrificed when compared with a carpet and pad type of installation. In the bathrooms, porcelain tile is recommended, providing excellent durability and easy maintenance. Because the areas of the bathrooms are small, the higher cost of porcelain tile over resilient flooring will be negligible. Because hallways witness more traffic than offices, a durable flooring material that is easy to maintain and that will retain its appearance should be selected. More expensive than carpeting and

less expensive than hardwood, renewable cork is a good option. It can be re-finished like hardwood flooring. It provides good resilience for comfort under foot and absorbs sound well. Linoleum is another sustainable material that would be a good option. Less expensive than cork, linoleum is also very resilient and available in sheets or tiles and many colors. Finally, the least expensive option is commercial vinyl tile. New plywood underlayment should be installed throughout all floor areas to ensure that new flooring will not wear unevenly and will not telegraph imperfections in existing substrates.

Existing original walls are plaster with painted wood wainscoting. Newer interior walls are gypsum wallboard. Where walls will be altered or significantly impacted by renovations, it is sensible to replace all existing wall finishes with new veneer plaster on gypsum wallboard base. This approach avoids the difficult problems of matching new to patched surfaces. New wall finishes will ensure that requisite fire ratings can be achieved. Veneer plaster provides a smooth hard finished surface that takes paint well and adds minimal, if any, additional cost over regular gypsum board. For durability, ease of maintenance, historical recall, it is recommended that wood wainscoting be re-created in the hallways. Wood wainscoting in offices is not recommended because office walls will most likely be covered with furniture and file cabinets. A natural finish on the wainscoting will be easier to maintain than a painted finish. Acoustical insulation should be added to office and conference room walls to improve privacy.

Existing ceilings are acoustical tile hung below original plaster ceilings. On the first floor, both ceilings will need to be removed to make the required structural repairs. Existing ceiling heights are generally high to clear existing window heads. High ceilings are energy inefficient, requiring the HVAC system to heat or cool a great volume of air. Lower acoustical tile ceilings are recommended throughout. Lower ceilings will also bring light fixtures closer to work surfaces. A 2x2 tegular lay-in acoustical tile system is recommended for the hallways and 2x4 lay-in tiles are recommended for the offices. Although the tegular edged tiles are slightly more expensive, they are more attractive

and their smaller size is more appropriate for the smaller width dimensions of hallways. A non-directional tile is preferred so that tiles can be placed in any direction. The exposed wood structure above the suspended ceiling cannot be left unprotected. Either upwardly acting sprinkler heads need to be installed or the wood must be covered with non-combustible materials, such as gypsum board. The concealed space above ceilings can be used for ventilation and air conditioning ducts. A raised soffit can be designed at the window heads to preserve the benefits of natural light and the exterior appearance of the windows. Acoustical ceilings are inexpensive, allow easy access to services running above, and provide good sound attenuation.

## **Building Systems**

The existing mechanical and electrical systems were inspected by the mechanical engineer, Bruce MacRitchie, and the electrical engineer, Howard Gerber, of MacRitchie Engineering, Inc. Their report of existing conditions and recommended improvements is appended to this report. (See Appendix C.) Generally, all existing building systems components are antiquated and well beyond their usefulness.

The building's existing heating, ventilation, and air conditioning system (HVAC) is a collection of components that were added haphazardly as needs arose. Heating is provided by a variety of newer gas-fired and older oil-fired furnaces. These residential type units provide no zone control. Cooling is provided by direct expansion cooling coils matched



Figure 15: Condenser with protective roof.

to the furnaces and split ductless systems. Condenser units litter the exterior of the building, detracting from the appearance of the building. (See Figure 15.) The mechanical engineer recommends replacing the existing HVAC system with high efficiency gas-fired condensing boilers

for heat, a packaged air cooled chiller for cooling, and a fan coil distribution system. Auxiliary ventilation required for high occupancy spaces would be provided by dedicated air handling units. The hydronic fan coil system is particularly suited for renovations where spaces for large ductwork, duct penetrations, and vertical shafts are more difficult to accommodate.

Gas service will need to be increased for the new boilers. With new locations and configurations for bathrooms, the plumbing systems (water and sanitary) are recommended for complete replacement. A new fire service will be needed for a new fire protection system. A dry sprinkler system will be required for the unheated attic space to avoid freezing.

There are two existing 200 ampere, single phase electrical services into the building. Several electrical code violations were observed. A single upgraded three-phase service will be required for an elevator and fully air conditioned spaces. All components of the secondary power distribution system are antiquated and should all be replaced, with the exception of a fairly new automatic transfer switch.

The existing fire alarm panel is obsolete. Wiring to and from fire alarm devices are exposed and unprotected. In corridors, heat detectors instead of smoke detectors are used, providing inadequate early warning in case of fire. An entirely new fire alarm system is recommended. A new alarm system should be fully addressable, continuously ringing, and municipally connected. Some existing battery operated emergency lights were tested by the electrical engineer and found to be non-operational.

The lighting throughout is provided by old fluorescent fixtures of various types and styles. Generally, the quality of lighting is poor and complete replacement of old light fixtures with new energy-efficient fluorescent fixtures is recommended in any extensive renovation. Lighting fixtures should be selected as part of a lighting plan that addresses various spaces differently and identifies

both task and general lighting goals. Renovations should include a systematically designed wiring system for computers and communications.

## **Code Compliance**

The existing building does not comply with several current codes and regulations, including the Seventh Edition of the Massachusetts State Building Code (780 CMR), which governs life safety issues, and the Massachusetts Architectural Access Board regulations (MAAB, 521 CMR). (See Appendix D for building code analysis.) The Americans with Disabilities Act (ADA) is a federal statute that requires reasonable accommodation for the disabled and utilizes enforcement through case law. The Department of Transportation publishes a guideline (ADAAG) which is in keeping with the intent of the ADA, but it must be emphasized that this is not a code and conformance to it does not preclude any individual's right to file a lawsuit under the ADA. The MAAB is a code, enforced by the local building official, that applies to all public buildings in the state. Because it includes all the recommendations of the ADAAG and, in some cases, more restrictive requirements, the MAAB should be considered the document having jurisdiction.

The threshold for complete compliance to its current code is clearly established by the MAAB at 30% of the full and fair cash value of the building. The assessed value of the building alone is \$517,700. Although maintenance-type improvements, including window replacement, hazardous materials abatement, and building systems improvements do not count toward this 30% value threshold, other renovations will certainly exceed \$155,310, triggering full compliance and protecting the Town from potential lawsuits under the ADA.

The major requirement of the MAAB that is missing in the existing building is an elevator that provides handicapped access to the second floor. The elevator code allows elevators to be only wheelchair sized if they are added within the existing building envelope and space is limited. But

if an elevator is added outside the existing structure, it must be sized to fit a stretcher. Limited use elevators are not allowed in buildings over 3,000 square feet in size nor where the floor level change is a full story. The existing wheelchair lift at the rear entrance is not a good solution for providing handicapped access into the building. An exterior lift is difficult to maintain, as evidenced by its poor condition. It is also not a gracious entrance for the public. A ramp would be significantly long and there is inadequate space.

Chapter 34 of the MA Building Code governs additions and renovations to existing buildings. The original Town Hall building was a non-separated Mixed Use occupancy with Assembly (A-3) on the second floor, Business (B) on the first floor, and Moderate Hazard Storage (S-1) in the basement. It is expected that this use classification will not change, allowing alterations to be made with materials similar to the existing ones. Under Chapter 34, only complete replacement of an existing building system or element requires full compliance of that portion of the building. Rather than establishing a value threshold, the Building Code allows the local official to determine the applicability of current codes to alterations. The code, however, does require that a hazardous means of egress, if cited by the building official, must be corrected expeditiously. The Town Hall currently has no code-compliant means of egress from the second floor. The existing exterior steel fire escape is no longer an acceptable means of egress under the current code. In addition, the fire escape detracts from the general appearance of the building and it is very difficult to maintain. The interior stairway is open and, as such, cannot serve as an egress stairway.

New building systems must be in full compliance with current code requirements. The Building Code requires that buildings over 12,000 square feet in area, undergoing substantial alterations, be equipped with a fire suppression system. Westford has adopted an even more restrictive requirement, M.G.L. Chapter 148 §26G, that requires sprinklers for major alterations in buildings over 7,500 square feet in area. In either case, a full sprinkler system will be required.

## **Hazardous Materials**

Massachusetts requires inspection and testing for hazardous materials in all areas where renovation is planned. Given the age of the building, it is anticipated that materials containing asbestos will be found. A complete inspection of both interior and exterior components and full abatement of hazardous materials is recommended. Lead paint can also be anticipated, particularly on the exterior. Because this building is not and will not be occupied by children under the age of 6 for six or more hours a day, lead paint abatement is not required. A lead abatement contractor is not required, but the contractor must follow all relevant OSHA, state, and federal regulations in order to protect workers from exposure. In disposing demolished materials, the contractor must have each container load tested in accordance with the Toxicity Characteristic Leaching Procedures (TCLP). If the TCLP test reveals that the waste load contains less than 5.0mg/l of lead, the load can be disposed of as non-hazardous waste. Above that threshold, the entire load must be disposed of as hazardous waste, a more costly proposition.

## **Recommendations**

In summary, inspections have revealed that there are many age-related and code deficiencies in the existing building. The following improvements are recommended to allow continued use of the building and to prolong serviceability of its components.

- Repair exterior wood sidings and trims and slate roofing.
- Replace flashings.
- Replace existing windows.
- Re-paint exterior.
- Provide exterior wall insulation.
- Augment existing attic insulation and add ridge and eave vents.



- Repair existing structure.
- Replace existing wall, ceiling, and floor finishes.
- Provide men's and women's and handicapped accessible toilet rooms on both floors.
- Provide new elevator.
- Provide new code compliant egress stairway.
- Make improvements to comply with all applicable codes.
- Provide new heating, ventilating, and air conditioning systems.
- Provide all new water and sanitary piping.
- Provide new fire protection system.
- Upgrade electrical service.
- Provide new secondary electrical distribution system.
- Provide all new lighting fixtures.
- Provide new fire alarm system.
- Abate all hazardous materials as required.

A more detailed recommended scope of work, in the form of an outline specifications, is provided in the Cost Estimate section of the report.

## SPACE PROGRAMMING

A space program is an essential guideline for planning. It identifies needed spaces and their area requirements, desired adjacencies, and special characteristics. For this study, questionnaires were distributed to all affected municipal departments through the Town Engineer. (See Appendix E.) Responses to the questionnaire were compiled into a preliminary space program and used to design initial concepts plans. Later, the new Town Manager added her insights into current and future staffing and directed that some modest reductions be made to the program.

### Building Layout

The interior layout of the first floor Town Hall is symmetrical and straight forward. There is a wide central hallway running the long length of the building. Offices flank either side of the hallway, some with service windows. The structural bays roughly divide the width of the building into thirds and the central hallway is narrower than the middle bay. As such, cast iron columns can be found in some offices, imposing some limitations on furniture layouts. (See Figure 16.) The layout of the second floor is haphazard and confusing. With no hallways, all spaces are interconnected. There is no visual or acoustical privacy. Originally an open meeting hall, the second floor is clear spanned with roof trusses. The column-free floor area offers complete flexibility in laying out spaces. However, the balcony and the stage are obstructive elements that should be removed for ultimate usability of the second floor. Large windows provide plenty of natural light on both levels.



Figure 16: Cast iron column.

## Space Needs

Town offices have been temporarily relocated to other municipal buildings. When they were in the Town Hall, offices were cramped and overcrowded. Observed needs were confirmed by the responses to the questionnaires. There is an absence of privacy. There is no opportunity to meet privately with staff or the public. There is a dearth of meeting space. There are no small and medium sized conference rooms for committee and staff meetings. Selectmen's meetings are conducted off-site, at the Library. For greatest efficiency, each floor should have at least one shared conference room available for daytime use by town staff and evening use for public and committee meetings. Ideally, the meeting rooms should have the ability to be independently accessed during evening hours, without compromising the security of the municipal offices.



Figure 17: Storage boxes in offices.

Inadequate storage space to archive files contributes to overcrowding in the offices. (See Figure 17.) A significant portion of office documents are records that do not require frequent access and can be relocated to a more centralized shared location. With this recommended change, more usable space would be made available for office functions. Currently, there are two small vaults, one in the basement and one on the first floor, that certainly do not meet the standards established by the Massachusetts Secretary of State's office for record keeping. A four hour rated vault is required for storage of paper records and a six hour fire rated vault is required for storage of media, such as computer disks and other electronic media. To prevent the detrimental effects of humidity, vaults also need to be environmentally controlled. Vault storage needs can be consolidated into a centralized location, improving efficiency.

## Space Program

Meeting rooms have been sized for specific desired occupancies and anticipated uses. In sizing general office spaces, anticipated occupancy was used as a guideline. For each staff member, 100 square feet has been allotted. This area allows for an 8'x8' corner workstation and a total of 4' of additional width for circulation. Another 100 square feet has been added to each general office space for storage and equipment. (See Figure 18.) It should be noted that 8'x8' workstations are generous and

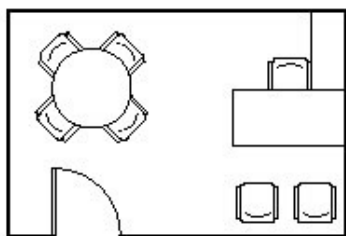


Figure 19: Private office.

provide more work space than is currently provided for staff. Standard desks with returns can also be used and would result in more compact layouts. Private offices are approximately 150 square feet, sized to accommodate a desk, two visitors' chairs, and a small table for meeting. (See Figure 19.)

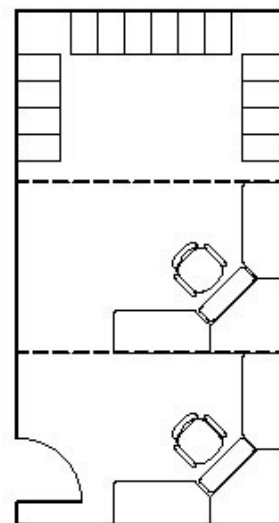


Figure 18: General office.

The Town has completed a separate independent study on their archival needs. The results of that study are incorporated into the preliminary space program. Input from the public and town boards indicates that there is general consensus that the expanded Town Hall should accommodate all municipal offices. However, the need for a large Board of Selectmen's meeting room and/or full archival storage facilities is still unsettled. A revised space program was developed after discussions with the Town Manager. Both programs reveal that the existing 7,500 square foot building does not adequately accommodate the needs of the town offices. (See Table 1.)

Table 1: Space program.

Space	Existing Size	Proposed Size	Proposed Occupancy	Revised Size	Revised Occupancy	Public Access & Department Proximities	Privacy / Meeting Space and Other Requirements
<b>Accountant</b>							
General office	120	350	2FT, 1 PT	350	2FT, 1PT	limited public interaction	1 private office w/conf. table
Accountant's Office	107	150	1FT	150		all Financial depts., HR, TM, Schools	
<b>Assessors</b>							
General office	600	500	4FT	400	3FT	public interaction	privacy - Assessors and clerical
Vault	64					Collectors, Building, Health, Planning	meet w/ taxpayers
<b>Finance Director/Treasurer</b>							
General office	120	300	2FT	300	2FT	no public interaction, limited access	private office w/small conf. table
Finance Director/Treasurer	182	150	1FT	150	1PT	Collector, Accountant, Assessors, HR, TM, schools	
<b>Collector</b>							
General office	325	500	4FT	400	3PT	Public interaction	privacy - meetings w/taxpayers (2-15)
						all Financial depts.	window/counter for collections
						daily receipts from all depts., schools	
<b>Human Resources</b>							
General office	219	300	2FT	200	1FT	limited public interaction	high need for privacy & confidentiality
HR Director		150	1FT	150	1FT	all departments	private office w/small conf. table
<b>Building</b>							
General office	93	450	2FT, 3PT	450	2FT, 3PT	public interaction	private office w/ plan review table
Building Commissioner	171	150	1FT	150	1FT	Health, Collector, Assessor, Conservation, Planning, Zoning	plan review meetings w/other depts.
<b>Health</b>							
General office	592	800	4FT, 6 PT	400	6PT	public interaction	privacy & secure storage
Clinic area	144			150	1FT	Permitting depts., Council on Aging, Schools	meetings w/staff (8-10)
Health Director				150	1FT		& customers (2-6)
Environmental Director				150	1FT		counter service
<b>Conservation</b>							
General office	188	250	1FT, 1PT	130	1FT	public interaction - complete forms	occasional privacy
Shared office			(shared)	100	1PT( shared)	Planning, Building, Health, Engineering, Park & Rec	Conservation Commission public meetings (9 + audience of 50+)
<b>Planning</b>							
General office	145	250	1FT, 1PT	130	1FT	public interaction	private meetings w/ developers
			(shared)	100	1PT( shared)	permitting depts., Town Clerk, Collector, Finance, Health, Engineer	plan review table space
<b>Town Manager</b>							
General office	160	300	3 full	300	2FT	public interaction	counter/service window
Town Manager	264	200	2FT	200	1FT	all departments	TM & ATM meet w/ public
Asst. Town Manager		150	1FT	150	1FT		& town depts. (up to 8)
							public access to general office,
							controlled access to TM & ATM
							cannot share fax, printers
<b>Town Clerk</b>							
General office	290	400	2FT, 2PT	400	2FT, 2PT	public interaction	counter/service window w/ side
Town Clerk		150	1FT	150	1FT		writing surface
Vault	51						controlled access to general office
							mail / forms cabinets
							meeting space for 4-6 in office area
							microfilm reader
<b>Veteran's Services</b>							
General office		150	1FT	100	1FT	open by appt. - not normal business hours	easy access for elderly
						Finance, TC, TM, Park & Rec, Highway, Schools	small conf. table (4)
<b>Dog Officer</b>	68						
<b>Support</b>						<b>Requirements</b>	
Copy rooms	201	200		200		1 per floor, check folding machine for financial depts.	
Lunch / break room		200	10	200		small kitchenette	
Storage						election & town mtg. supplies, general office supplies, flags & VA materials	
Conference room	144	200	12	200		building depts.	
Conference room		250	15	250		financial depts./auditors	
Meeting room		600	50	600		public hearings	
Changing room		25		0		conservation site visits	
Custodian office	48						
Permitting	168						
Zoning	81						
<b>Archives</b>							
Archival vault		650		650		in or near Town Hall (library, museum ?), climate controlled, fire rated	
Office		250		150			
Records storage		600		600			
<b>TOTAL NET SF</b>	<b>4545</b>	<b>8625</b>		<b>7860</b>			
<b>TOTAL GROSS SF</b>	<b>7640</b>	<b>12321</b>		<b>11229</b>			
<b>NET/GROSS</b>	<b>59%</b>	<b>70%</b>		<b>70%</b>			

## ALTERNATIVE SOLUTIONS

Although there is general agreement that the existing Town Hall building should be restored for use as town offices, it is not large enough to meet all the needs of town government, as quantified in the space program. As alternatives to expanding the Town Hall, the PTBC requested that three existing buildings be assessed for their potentials to accommodate some or all the town offices. Each building was toured to gain a sense of its physical condition and existing space configuration. In response to public and Selectmen's inquiries, the PTBC later requested that the land behind the police station be cursorily evaluated for its potential to be developed at a town archive. No investigations of any of these properties were made beyond what could be determined visually. No engineers were involved.

### Roudenbush Community Center

Located at 65 Main Street, the Roudenbush Community Center (RCC) building was constructed in 1897 as the Westford Academy, a private school.<sup>3</sup> The Town acquired it in 1928 and used it as a public school until 1973. Since 1975, it has been the home of the Town's community center. Although it remains a town department, the RCC has been fully financially self-sufficient since 2004.



Figure 20: Roudenbush building.

The building is a beautiful example of Shingle Style architecture, made famous and perfected by Boston architect H.H. Richardson. (See Figure 20.) Through the years, the RCC has maintained the building in good condition. Capital improvements have been made incrementally as budget

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<sup>3</sup><http://www.roudenbush.org/new/history.php>



Figure 21: Missing slates & old flashing.

allowed. But more needs to be done. The roofing and flashing should be carefully inspected and evaluated. Evidence of missing slate tiles, deteriorated copper flashing, and aging rubber roofing was noted. (See Figure 21.) If the building were to be used for town offices, the HVAC systems will need to be replaced. The antiquated steam boiler is inefficient and close to the end of its usefulness.

The gymnasium is heated by a hot air furnace. There are no central air conditioning or mechanical ventilation systems. A modern office building should be equipped with both. There is no fire protection system.

There are two stairways in the building, but neither is enclosed. With a change in use, this life-safety violation should be corrected. The third floor is currently unusable because it lacks two code compliant means of egress. There is no handicapped access into or within the building. An elevator would be required. The existing first and second floors total approximately 11,600 square feet, which should be adequate to meeting the revised spaced program. The current layout of the building consists of large classrooms and a gymnasium that all must be re-configured to accommodate offices. The interior configuration is particularly well-suited for the RCC. The site also includes attractive front and side yards that are actively utilized by the RCC for their children's programs. Parking is limited and located at the rear of the site. (See Figure 22.)



Figure 22: Parking behind RCC.



If the town offices were to be relocated to the Roudenbush building, another suitable site must be found for the RCC. Significant upgrades and renovations would be required. And additional parking must be developed. Although feasible, displacing the RCC with town offices does not resolve the problems at the Town Hall building. Minimally, structural failures must still be repaired, handicapped access must still be provided, and code violations must still be corrected. Renovating two buildings and duplicating elevators, stairways, HVAC systems, fire protection systems, and electrical service upgrades will certainly incur higher construction costs than renovating and expanding the Town Hall alone.

### **Frost School**

Located at 73 Main Street, next to the Roudenbush building, the Frost School was built in 1908 as a 4-classroom school for grades 1-8.<sup>4</sup> (See Figure 23.) Currently, it is occupied by the RCC and used for its daycare program. Smaller than the Roudenbush building, the Frost School is only approximately 6,300 on the first and second floors. There is insufficient area for all the town offices, but it can be considered for a Town Hall annex. An annex, however, has some inherent



Figure 23: Frost School building.

inefficiencies. Two locations are always less convenient for staff and the public. At the same time, distributing offices between two buildings may yield some planning compromises, with some offices smaller and others larger than desired.

Similar to the Roudenbush, the RCC has maintained the building in good condition, making some incremental capital improvements through the

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<sup>4</sup>Ibid.



years. Still, like its larger neighbor, the Frost School needs some major improvements, if it is to be used as town offices. The antiquated steam boiler and pipes should be replaced with a new heating system. Central air conditioning and mechanical ventilation systems should be introduced for comfort.

Similar to the Roudenbush, the Frost School has two open stairways that need to be enclosed. There is no handicapped access into or within the building. An elevator would be required. The existing interior configuration, consisting of two large classrooms on each floor, must be re-planned for office use.

And like the Roudenbush, if the Frost School is to be used as a Town Hall annex, another suitable site must be found for the RCC's daycare program. Significant upgrades and renovations to the building would be required. Although an addition to the Town Hall would not be required, renovating two buildings and duplicating elevators, stairways, HVAC systems, and electrical service upgrades will certainly incur higher construction costs than renovating and expanding the Town Hall alone.

### **Franco-American Club**

Located at 55 West Prescott Street, the Franco-American Club is a privately owned property. The Club is interested in subdividing its lot, selling the front parcel with the existing building, and constructing a smaller club building on the rear lot. Approximately 10,000 square feet on a single floor,



Figure 24: Franco-American Club.

the existing building is a manufactured steel structure with metal siding. (See Figure 24.) The square footprint provides a maximum amount of interior space with a minimum length of perimeter

wall. Although this is energy efficient, the trade-off is the lack of natural light. There are very few windows and they cannot bring natural light or ventilation far into the center of the building. The size of the building is not quite large enough to accommodate all the needs of the Town Hall. Another concern is that the site is at the extreme west end of town, making it inconvenient for many residents. The existing HVAC system consists of four packaged units that date to 1995. These types of systems are difficult to zone and control. They have low initial costs, but do not have a long life expectancy. These units are close to the end of their usefulness and replacement in the near future should be expected. Parking is currently limited and the amount of land available after the Club subdivides the lot is unknown at this time. Designed and sold as a purely functional and inexpensive structure, the building is unarguably unattractive and, as such, a poor symbol the seat of town government.

### **51-55 Main Street**

The Town Hall, the Police Headquarters, and the Fire Headquarters occupy a small portion of a 30 acre property. The three existing buildings are sited close to Main Street, leaving a large amount of undeveloped land behind them with no street frontage and a great deal of wetlands. Even so, there is a usable area that is beyond the 100 ft. wetlands setback, located significantly away from the existing buildings and toward the west side of the property. An annex at this distance from the Town Hall would require vehicular access. As a town archive annex, minimal parking would be required, but the inconvenience of having an archive off-site should be considered. The cost of developing a separate archive building and associated driveway and parking would be higher than including the archive in the expansion of the Town Hall. Potentially close to residential neighbors, an archive annex may raise objections from abutters.

## DESIGN OPTIONS

At the existing Town Hall site, available areas for expansion are quite limited. Already at a minimum, parking should not be reduced. The area immediately south of the parking lot and in close proximity to the Town Hall is wetlands. Only two areas have been identified as available for expanding the Town Hall: the small area to the south of the Town Hall and the plaza area in front of the police station.

Using the original space program, five conceptual designs were initially developed. All schemes propose a two-story addition on the south side of Town Hall. Schemes A1 and A2 propose an additional single story addition north of the police station and west of the Town Hall. Schemes B1 and B2 propose an additional 2-story addition at the same location. And Scheme C proposes a new second floor over the existing police training room. Scheme B2 was selected by the PTBC as the preferred concept and the Board of Selectmen voted to proceed to develop a construction cost estimate of this scheme.

Subsequently, the Board of Selectmen and Special Town Meeting voted to proceed forward with design for renovating and expanding the Town Hall, affirming the town's commitment to keeping town offices at the existing building. However, the commitment was made with the understanding that Scheme B2 is only a concept and that all interested town boards and committees will have the opportunity to contribute to the final design as it develops. To this end, a joint meeting of all town boards and committees was convened by the PTBC in November 2008 to solicit input and reactions to Scheme B2.

From this meeting, various concerns and suggestions were expressed. (See Appendix E.) Of primary concern to the Board of Selectmen was the need to be fiscally prudent with the project. In

addition, there was some hesitancy to adding on in front of the police station. The concern was the visual impact an addition would have on the existing massing visible from Main Street and the loss of the public plaza space. The Town Manager sensed a desire to explore the impact of reducing the size and scope of addition(s) to the Town Hall, in an effort to be fiscally responsible. She evaluated the space program, based on her plans for current and future staffing, and directed that some departments could be reduced in sized without compromising functionality. Using her input, a revised space program was developed and two additional design options were developed for consideration. Both designs eliminate the addition in front of the police station. Like previous schemes, both Schemes D1 and D2 propose a 2-story addition on the south side of the Town Hall. Scheme D2 adds a single story addition between the Town Hall and the police station.

Note that in all design concepts, the vault is located in an addition because it is easier to achieve the structural requirements with new construction. The vault must be structurally independent, capable of remaining stable, should the rest of the building be destroyed by fire. This requires that the walls be either concrete or concrete masonry units (CMU) and the floor and roof be concrete slabs. The existing wood structure would need to be extensively modified, but new construction can easily be designed to achieve this requirement.

Similarly, if the large meeting room is to be located on the first floor so that it can be easily accessed during off-hours, when the Town Hall is closed, it must be located on the first floor of an addition. The existing first floor has columns that would not be desirable in a large meeting room. Schemes A1 and A2 show this approach. Schemes C, D1, and D2 show the meeting room on the second floor, where clear spans can be provided. In Scheme C, the meeting room is located in the existing building and in Schemes D1 and D2, it is located in the addition. Modifying and sharing the training room in the police station for town meetings was proposed and, understandably, rejected by the Police Chief. The training room is designed like a lecture hall, tiered and furnished with fixed seats and desks, whereas a town meeting room needs to be a single level with no fixed seating. A

single configuration for a shared meeting/training room is not possible because their purposes are different.

With any expansion of the Town Hall, there is concern that existing parking will not be adequate. The Assistant Town Manager identified a small area to the west of the fire station that can be developed into staff parking, making more of the existing parking spaces available for visitors. However, it should be noted that with the expansion of Town Hall, there will be increase in staffing. And the demand for parking for the meeting room will likely be in the evening when there is no conflict with daytime staff and visitor parking.

At their meeting of December 2, 2008, the Board of Selectmen voted to proceed forward in developing Scheme D2. They were generally satisfied that a concerted effort had been made to reduce the size of the expansion without compromising function. There was agreement that the meeting room should be included and could also serve as future expansion, should the need arise. There was also agreement that facilities for the storage of permanent town records should be included. Suggestions were made and will be explored to use either the attic space or the basement of the addition for records storage. The Chair expressed a desire to see the front stairway restored to its original symmetrical design.

## **Drawings**

Drawings of design schemes that were not considered are included in Appendix G. Drawings of Scheme B2, the concept initially recommended by the PTBC and Scheme D2, the preferred final concept, follow in this section. For the purpose of comparison, floor plans, and building elevations of the existing Town Hall are presented. (See Figures 25, 26, and 27.)

Figure 25: Existing first floor plan.

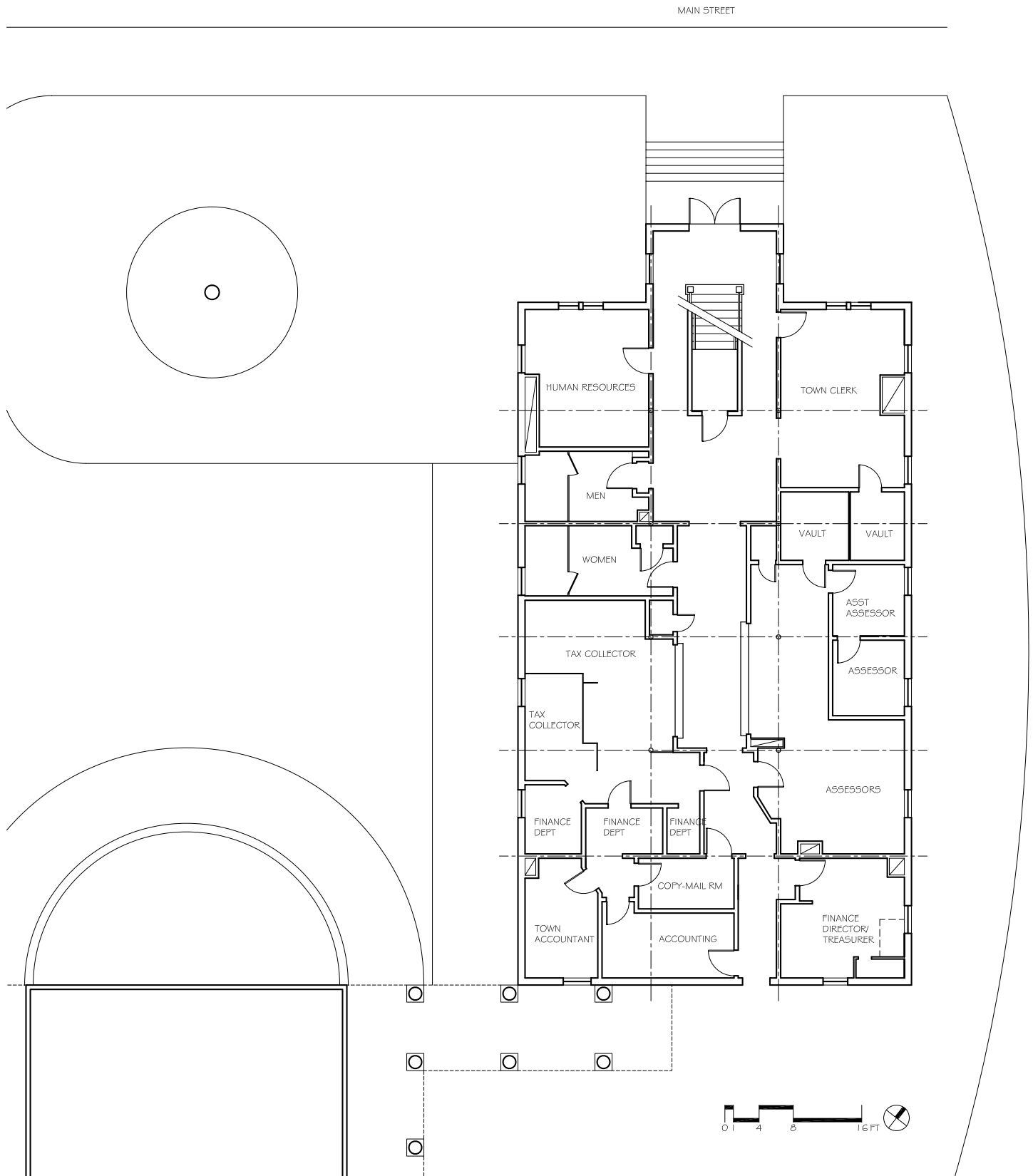


Figure 26: Existing second floor plan.

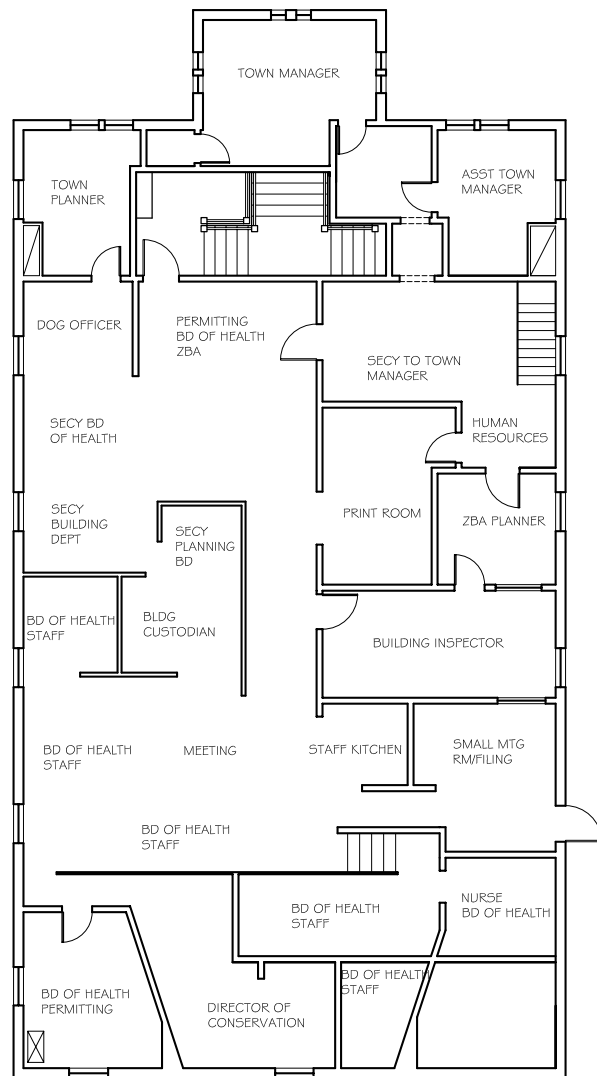


Figure 27: Existing Main Street elevation.





## **Scheme B2**

This scheme was designed using the original space program. Similar to Scheme B1, this scheme proposes a two-story addition on the south side of the existing building and another two-story addition in front of the police station, all connected to the existing Town Hall. In this scheme, the elevator and second egress stairway are located in the connector between the existing building and the westerly addition. Greater flexibility in planning the westerly addition is gained by having the stairway closer. Locating the elevator and stairway in the connector also frees up more space in the existing building for usable space. Program spaces, as originally developed, fit easily into these plans, leaving a significant expansion space. The Main Street elevation for Schemes B1 and B2 are identical. (See Figures 28, 29, and 30.) Of the five schemes that were initially developed and presented, the PTBC preferred this scheme primarily because it easily meets programmatic requirements and has good expansion potential.

Figure 28: Scheme B2 first floor plan.

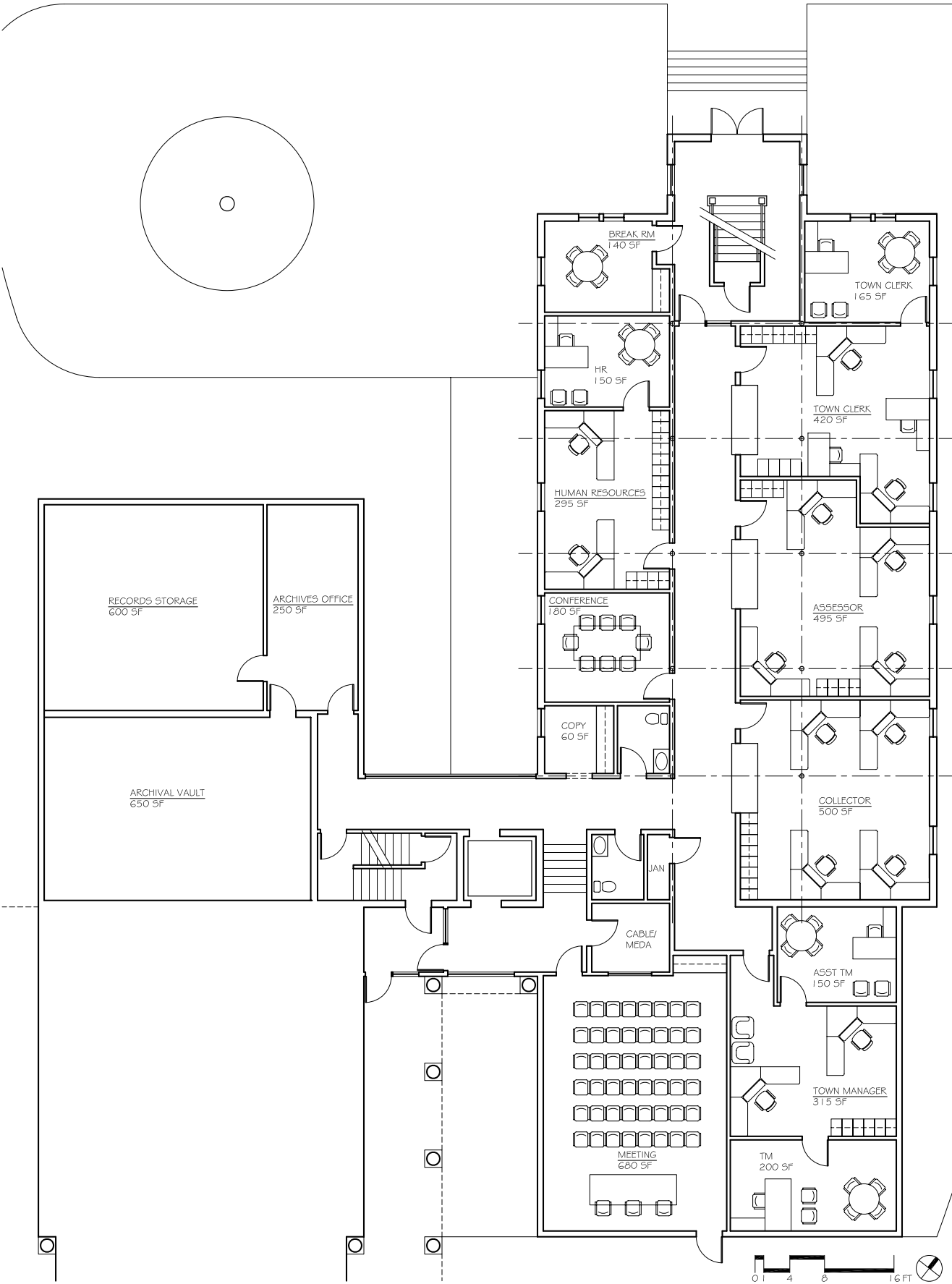


Figure 29: Scheme B2 second floor plan.

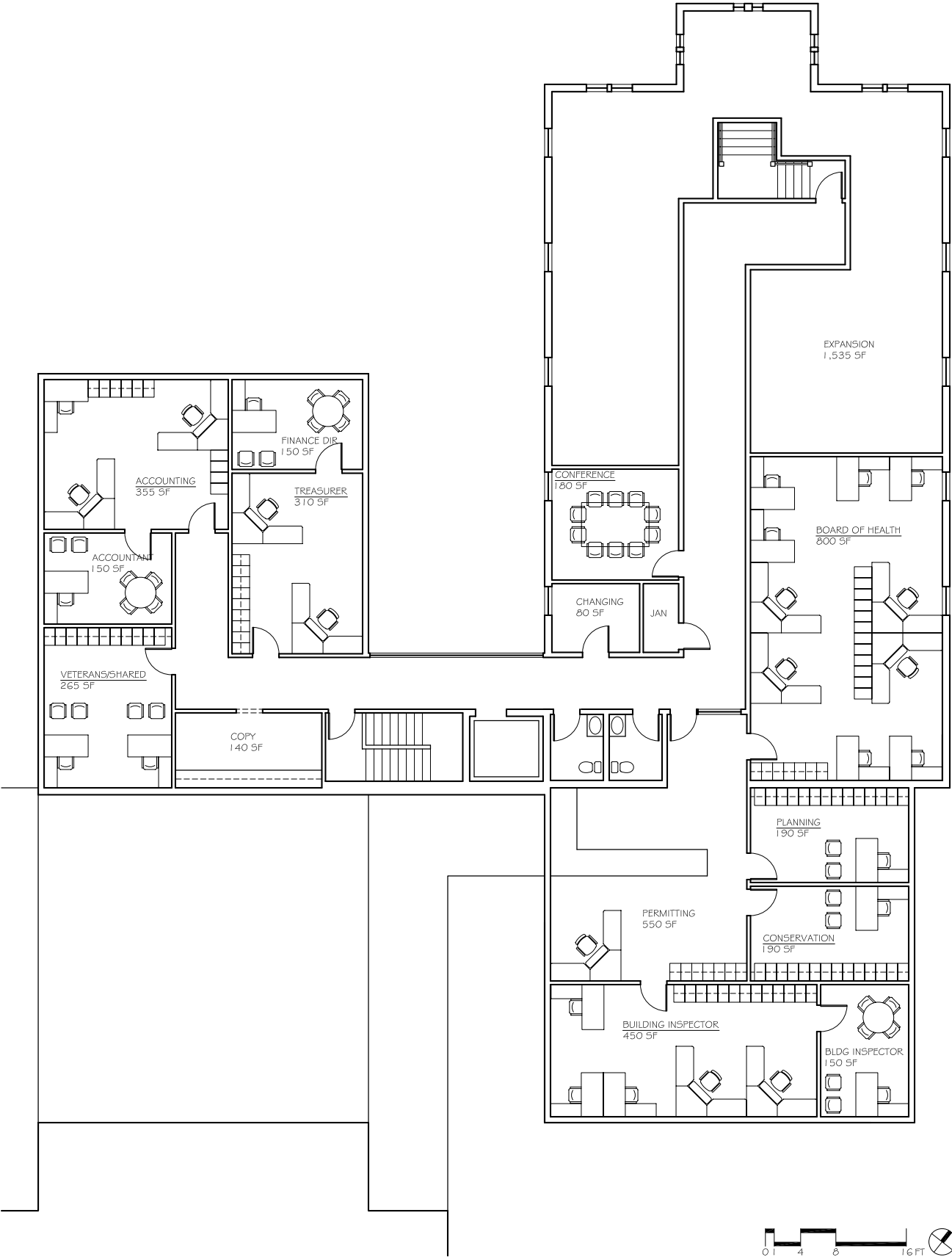


Figure 30: Schemes B1 and B2 Main Street elevation.



## **Scheme D2**

This scheme was designed using the revised space program. Like Scheme D1, this scheme proposes a two-story addition on the south side of the existing building, but also adds a small one-story addition that fills the space between the police station and the town hall addition. With this space, the town archive can be included in the Town Hall, although the record vault is reduced in size. All other program spaces, as revised, fit comfortably into these plans. (See Figures 31 and 32.) Although visible from Main Street, the westerly addition is set back from the police station and will not have a strong visual impact from the street.

Figure 31: Scheme D2 first floor plan.

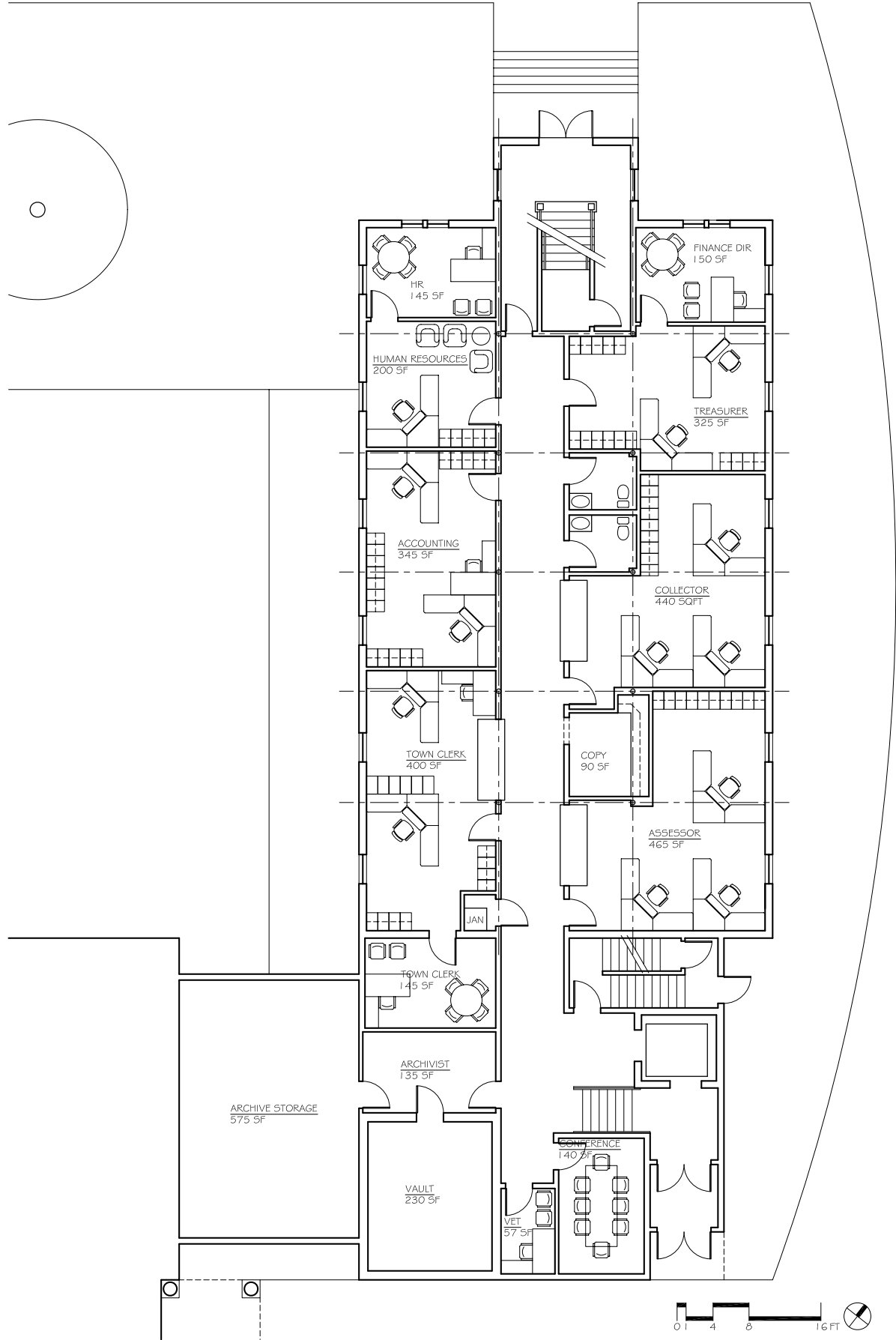
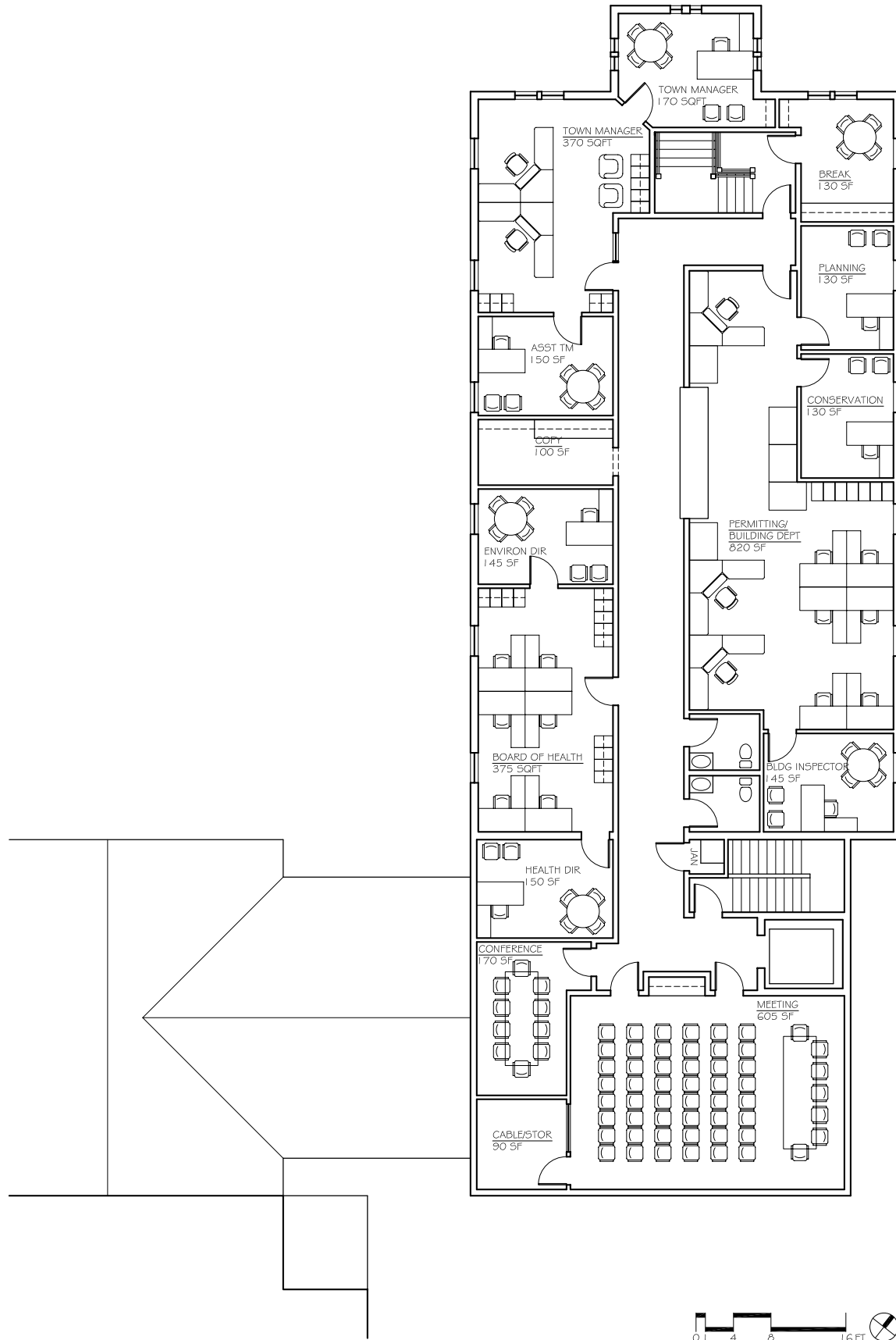


Figure 32: Scheme D2 second floor plan.



## COST ESTIMATE

Incorporating the recommendations of the existing conditions section, outline specifications for Scheme B2 were prepared for cost estimating purposes. (See Table 2.) The major components of the design concept (i.e., renovations, south addition, west addition, and connection) are separated to provide a understanding of relative costs. These should not be construed as complete costs for each component because site costs and mark-ups are not separated. An estimated cost for developing additional staff parking to the west of the fire station has been prepared as bid alternate #1. The construction cost estimate in its entirety, as prepared by D.G. Jones International, LLC, can be found in Appendix H. See Table 3 for a summary.

In reviewing this preliminary construction cost estimate, note the following mark-up items:

- Design Contingency: This is an allowance for further modifications and additions to the scope of construction as the design develops. The value, set at 10%, would be reduced as the design further develops.
- Construction Contingency: This is an allowance for change orders during construction. The value, set at 7.5%, is reasonable considering the nature of renovation projects. Many unforeseen conditions may be uncovered during construction.
- Escalation: This is the inflationary factor. The cost estimator recommends adding 1½% for each quarter between the date of the estimate to the midpoint of construction. Assuming a second quarter 2009 bid date and a construction period of fifteen months, an escalation factor of 5.4% has been added.



Estimates for other project costs (i.e., “soft costs”), unrelated to the general contractor’s work, are not included. For planning purposes, the PTBC should add other cost factors, including:

- Design fees: This is the fee for basic architectural and engineering services.
- Additional design services: The costs of hazardous materials inspections, geotechnical explorations, and the like are not normally included in the architect’s basic services.
- Technology consultant: The owner should work directly with a technology consultant to design a network that meets their needs.
- Reimbursable expenses: This includes the cost of reproducing bid sets, bid advertisement, and other miscellaneous expenses associated with the project.
- Project manager: Massachusetts General Laws now require an owner’s project manager for projects estimated over \$1.5 million in construction cost.
- Construction materials testing: This is the cost of testing materials, such as soils, concrete, and steel, to ensure that they meet specified performance criteria.
- Furnishings: With new spaces, some consideration should be given to the cost of new furnishings and equipment.
- Relocation costs: This is moving costs for the town offices.
- Project contingency: Just as there is a construction contingency, it is advisable to include a project contingency for unanticipated soft costs.

Because Community Preservation Act (CPA) funds will be sought for some portions of the project. The next estimate to be prepared, as the design develops, should separate those items of work that will qualify for CPA funding. These include construction for handicapped access, historic preservation, and records storage facilities.

Table 2: Outline Specifications

**DIVISION 2 - SITEWORK**

1. Demolition
  - a. Remove all existing finishes down to clean bare substrates.
  - b. Remove and dispose of selected interior walls.
  - c. Remove and dispose of all existing interior and exterior doors.
  - d. Remove and dispose of all exterior windows.
  - e. Remove and dispose of north exterior wall of police dept.
  - f. Remove and dispose of existing roof shingles.
  - g. Remove and dispose of auditorium balcony and stage in its entirety.
  - h. Remove and dispose of exterior fire escape.
  - i. Remove and dispose of rear addition in its entirety, including wheelchair lift.
  - j. Remove and dispose of south exterior wall of town hall.
  - k. Remove and dispose of planter and patio in front of police dept.
  - l. Remove and dispose of selected components of existing plumbing, HVAC, and electrical systems.
2. Allowance for asbestos abatement.
3. Allowance for lead paint OSHA procedures.
4. Allowance for dewatering.
5. Relocate and modify existing utilities as required at location of new additions.
6. Excavate and backfill for new additions foundations.
7. Excavate and backfill for new column footings in basement.
8. Excavate and backfill for elevator pit.
9. Foundation drain around addition.
10. Finish grade and restore site.
  - a. Allowance for landscaping.
  - b. Patch existing patio area.

**DIVISION 3 - CONCRETE**

1. Concrete foundations for additions.
2. New slab-on-grade at additions.
3. New footings for added columns in basement.
4. New concrete slab over vault.

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**DIVISION 4 - MASONRY**

1. CMU elevator shaft walls.

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**DIVISION 5 - METALS**

1. Miscellaneous steel framing.
2. Steel pipe columns in basement.
3. Bearing plates for new LVL beams.
4. Steel deck for vault slab.
5. Elevator:
  - a. Pit ladder.
  - b. Hoist beam.

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**DIVISION 6 - WOOD AND PLASTICS**

1. New LVL headers and beams as required.
  2. Roof framing for additions:
    - a. Pre-fabricated trusses 24"o.c.
    - b. 3/4" plywood roof sheathing.
  3. Floor framing for additions:
    - a. LVL's 16"o.c.
    - b. 5/8" plywood subfloor.
    - c. 3/8" plywood underlayment.
  4. Exterior wall framing for additions:
    - a. 2x6 studs 16"o.c.
    - b. 1/2" exterior plywood sheathing.
  5. Cut in new ventilation in existing soffits.
  6. Interior walls:
    - a. 2x6 and 2x4 studs 16"o.c.
  7. Patch in walls at police dept. wall.
  8. Finish carpentry
    - a. Oak bead board wainscoting in hallways with chair rail and oak base in corridors.
    - b. Oak base and chair rail in meeting rooms.
    - c. 6" oak door and window casings with backbend molding.
  9. Misc. blocking.
  10. Temporary shoring.
-

#### **DIVISION 7 -THERMAL AND MOISTURE PROTECTION**

1. Roofing
  - a. New architectural shingles over entire roof.
  - b. Add ridge vent.
2. New aluminum gutters and downspouts connecting to existing storm water system.
3. Sealants
  - a. New bathroom sealants.
  - b. New interior and exterior sealants.
4. Insulation
  - a. Acoustic insulation in all interior partitions.
  - b. 2" rigid perimeter insulation under new concrete slabs.
  - c. Add thermal batt insulation in attic.
  - d. Add thermal batt insulation in existing and new exterior walls.
  - e. Vapor retarder on warm side of insulation.
5. Cedar wood siding and trims on exterior of additions.

#### **DIVISION 8 -WINDOWS AND DOORS**

1. New paneled oak doors and metal frames throughout. All doors, except storage rooms and bathrooms, to have half lites.
2. New hardware for all doors.
3. New aluminum clad wood windows at additions.
4. Storefront at new rear entrance and vestibule.
5. Glass at service windows.
6. New attic access ladder and door.
7. Rolling counter grilles at service counters.

### **DIVISION 9 - FINISHES**

1. Floors
  - a. New carpet and vinyl base in offices and meeting rooms.
  - b. Porcelain tile in bathrooms and at entrance vestibules.
  - c. Cork floors in hallways.
2. Walls
  - a. Veneer plaster over 5/8" gypsum wallboard for new walls.
  - b. Patch police dept. wall.
3. Ceilings
  - a. 2x4 acoustic ceiling tiles in throughout, except hallways and bathrooms.
  - b. 2x2 acoustic ceiling tiles in hallways.
  - c. Veneer plaster ceilings in bathrooms.
4. Paint
  - a. Paint all paintable new and existing interior and exterior surfaces.
  - b. Sand down, stain, and polyurethane new natural wood doors and trims throughout.

### **DIVISION 10 - SPECIALTIES**

1. Signage:
  - a. New interior signage.
  - b. Exterior building sign.
  - c. 2 building directories.
  - d. Glass enclosed and locked cork notice board.
2. Toilet accessories for new bathrooms.
3. Louvers for mechanical equipment and elevator ventilation.

### **DIVISION 11 - EQUIPMENT**

Not Used.

### **DIVISION 12 - FURNISHINGS**

1. Plastic laminate base and wall cabinets and counters in employee lounge and meeting room.
2. Plastic laminate wall cabinets in offices.
3. Plastic laminate service counters.
4. Window shades.
5. Metal shelving in archive storage and vault.

### **DIVISION 13 - SPECIAL CONSTRUCTION**

1. 6-hour rated vault panels and vault door.

### **DIVISION 14 - CONVEYING SYSTEMS**

1. 4-stop holeless hydraulic elevator with two doors.

### **DIVISION 15 - MECHANICAL**

1. Plumbing
  - a. New bathroom fixtures.
  - b. New hot water tank.
  - c. New piping.
  - d. Insulate all new hot and cold water pipes.
  - e. New s.s. sinks in kitchens.
  - f. New janitor's sinks.
  - g. New gas connections.
2. Fire Protection
  - a. New sprinkler system throughout.
  - b. New dry sprinkler system in attic.
3. HVAC
  - a. New VAV system.
  - b. New small boiler and perimeter radiation.
  - c. Separate split ductless system in vault.
  - d. Exhaust fans for new bathrooms.
  - a. Elevator exhaust duct wrapped in 2-hr. insulation.

### **DIVISION 16 - ELECTRICAL**

1. Upgrade electrical service and distribution system.
2. Lighting:
  - a. New 2x4 parabolic fixtures throughout, except hallways.
  - b. 2x2 fixtures in hallways.
  - c. Allowance for decorative lighting.
  - d. New exterior wall lights at additions.
3. All new wiring throughout.
4. Wire for computers and telephone throughout.
5. New fire alarm system to meet ADA.

Table 2: Base bid cost summary.

Div#	Division Name	<u>Consolidated</u>		<u>South Expansion</u>		<u>Link Expansion</u>		<u>West Expansion</u>		<u>Renovation</u>	
		<u>Cost \$</u>	<u>\$/sf</u>	<u>Cost \$</u>	<u>\$/sf</u>	<u>Cost \$</u>	<u>\$/sf</u>	<u>Cost \$</u>	<u>\$/sf</u>	<u>Cost \$</u>	<u>\$/sf</u>
	Gross Floor Area (in square feet)		15,662		3,192		1,568		3,246		7,656
2	Demolition/Alteration	126,917	8.10	1,500	0.47	750	0.48	1,500	0.46	123,167	16.09
2	Excavation, Etc.	59,379	3.79	15,251	4.78	19,778	12.61	18,526	5.71	5,825	0.76
3	Concrete	182,630	11.66	53,185	16.66	58,583	37.36	58,824	18.12	12,039	1.57
4	Masonry	20,196	1.29	0	0.00	20,196	12.88	0	0.00	0	0.00
5	Metals	86,747	5.54	4,471	1.40	3,445	2.20	31,263	9.63	47,569	6.21
6	Wood & Plastics	306,233	19.56	67,108	21.02	72,475	46.22	70,407	21.69	96,242	12.57
7	Thermal & Moisture Protection	173,627	11.09	48,329	15.14	27,040	17.25	48,353	14.90	49,905	6.52
8	Doors & Windows	276,239	17.64	68,733	21.53	50,614	32.28	34,857	10.74	122,036	15.94
9	Finishes	390,965	24.96	68,540	21.47	35,160	22.42	68,714	21.17	218,551	28.55
10	Specialties	45,890	2.93	7,040	2.21	12,820	8.18	6,265	1.93	19,765	2.58
11	Equipment	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
12	Furnishings	121,561	7.76	37,279	11.68	4,760	3.04	37,090	11.43	42,433	5.54
13	Special Construction	43,670	2.79	0	0.00	0	0.00	43,670	13.45	0	0.00
14	Conveying Systems	97,595	6.23	0	0.00	97,595	62.24	0	0.00	0	0.00
15	Plumbing	84,790	5.41	11,356	3.56	8,733	5.57	4,461	1.37	60,240	7.87
15	Fire Protection	177,551	11.34	35,627	11.16	10,517	6.71	32,714	10.08	98,693	12.89
15	HVAC	520,150	33.21	112,100	35.12	28,971	18.48	113,910	35.09	265,169	34.64
16	Electrical	338,471	21.61	72,532	22.72	27,609	17.61	73,624	22.68	164,705	21.51
	Sub-Total Building	3,052,609	194.91	603,050	188.93	479,045	305.51	644,178	198.45	1,326,336	173.24
2	Site Work/Site Utilities	51,550	3.29								
	Sub-Total Construction	3,104,159	198.20								
1	General Requirements	563,725	35.99								
	Escalation to mid point of construction 1Q2010	5.04%	184,861	11.80							
	Design Contingency	10.00%	385,274	24.60							
	Construction Contingency	7.50%	317,851	20.29							
	Total Construction Cost	4,555,871	290.89								



## RECOMMENDATIONS

This study has determined that the existing Town Hall building is not large enough to meet all the current and anticipated future needs of municipal departments. Further, the study has also determined that it is possible to add onto the existing building to create enough space to meet those needs. The size and scope of the expansion garnered considerable attention and subsequent discussions focused on the meeting room and the town archive. In the end, the decision was made to include both these components in the expansion project. Another viable location of the town archive has not been identified. Any off-site location would be, at a minimum, inconvenient, and possibly a hardship, for staff and the public. Although there are other meeting rooms in town, they are shared by many diverse community groups. The Board of Selectmen and other boards and committees have public meetings often enough to warrant a dedicated space for their public meetings. Scheme D2 accommodates all programmatic elements with few compromises in size. This scheme also has minimal impact on the current view from Main Street. As such, further development of Scheme D2 is recommended.

In addition, the Town Hall building requires repairs and upgrades that will allow its continued use as municipal offices. These improvements include the following:

- Repair and/or replace exterior envelope components.
- Improve thermal efficiency.
- Repair existing structure.
- Replace all existing interior finishes.
- Make improvements to comply with current applicable codes.
- Provide handicapped access into and within the building.
- Provide new heating, ventilating, and air conditioning systems.

- Provide all new water and sanitary piping.
- Provide new fire protection system.
- Upgrade electrical service and provide new distribution system.
- Provide all new lighting fixtures.
- Provide new fire alarm system.
- Abate all hazardous materials as required.

This study has proposed several feasible conceptual designs and an overall scope of work for this project. It is not intended that the designs, as shown, will remain unchanged. The final design must be developed with more input from the PTBC, town hall staff, Board of Selectmen, other interested boards and committees, and the general public. Finding a permanent solution for restoring the Town Hall and preparing it for continued future use is a challenging task. With this feasibility study, the Town has taken the first step in a long journey toward a successful project in which the entire community can take pride.

## **APPENDIX A**

### Request for Proposals

**Town of Westford, MA  
Request for Proposals (RFP) for  
Architectural study, space needs analysis, and treatment recommendations  
for the existing Town Hall**

PROJECT: Westford Town Hall

WEBSITE: <http://www.westfordma.gov>

LOCATION: 55 Main Street, Westford, MA

ESTIMATED PROJECT COST: not determined

STUDY TIME LINE: Spring/Summer 2008

**I. Purpose:**

The Permanent Town Building Committee (PTBC) on behalf of the Town of Westford, is requesting proposals for architectural services relating to the proposed repair, renovation, and expansion of the Westford Town Hall, located at 55 Main Street, Westford, Massachusetts, into a refurbished Town Hall and possible meeting space, housing a portion of the staff that recently occupied the building. The work will include, but not be limited to:

- Characterize in detail the existing condition of Town Hall.
- Evaluate the benefits of performing temporary repairs to the building allowing partial occupancy until full repairs can be completed. This shall include coordination with a structural engineer to ensure feasibility.
- Evaluation of all existing floors for reuse options. (i.e. second floor returning to a meeting/assembly space, staffing of first floor and/or additional floors, improving the basement for use through either lowering of the floor or jacking of the building, recommendations as to which departments can ultimately reoccupy Town Hall, etc...) This shall include coordination with a structural engineer to ensure feasibility.
- Evaluation of expanding the building for office space and/or storage and archive space.
- Evaluate all code issues, accessibility, mechanical systems, electrical systems, communication, and fire protection systems.
- Perform a space needs analysis for Town Hall staff which shall include meetings with appropriate Department Heads.
- Provide cost estimates for each phase and the total project.
- Participate in meetings involving various Town boards and committees.

## **II. Background:**

Located in Middlesex County, Westford is located to the West of Lowell and to the North of Concord. The town was incorporated in 1729. Westford has a beautiful, state of the art library, a very active community center with offerings for all ages, an active recreation department, an excellent school system, the Nashoba Valley Ski Area, and two town beaches on spring-fed ponds. Physically, Westford is a very beautiful town with rolling hills, lakes, and apple orchards. Originally Westford was noted for its farms and woolen mills, but today is mostly a bedroom community with an emphasis on high tech.

The Town Hall has recently been shutdown due to Structural failure of several support beams and joists. Currently the staff that occupied Town Hall is distributed throughout Town. They are currently located in the Police Department, Rogers Fire station, Millennium School, and Highway Facility. A report detailing this failure entitled “Structural evaluation of existing floor framing at the first and second floor levels of the Westford Town Hall” as prepared by Ipswich River Engineering, Inc and dated November 29, 2007 is attached.

## **III. Scope of Services:**

### **A. Services Requirements**

The design firm chosen will be responsible for working with the PTBC to provide design and other services in conjunction with an Architectural study, space needs analysis, and treatment recommendations that will determine the appropriate reuse of the Town Hall. **The awarding authority will be reserving the right contract with the study designer for final design services.** The following tasks are indicative, although not entirely inclusive, of the work to be done:

1. Evaluate the existing Town Hall, its condition and its site plan options, particularly in regard to the best possibilities for expansion and renovation.
2. Provide a narrative describing the building fabric and structural recommendations.
3. Provide schematic floor plans demonstrating options for reuse of the existing Town Hall in its current footprint.
4. Provide schematic floor plans demonstrating options for reuse of the existing Town Hall with an expanded footprint.

5. Provide schematic plans, taking into consideration the existing building on site, zoning bylaws, and site constraints which may impact development, as well as future expansion possibilities.
6. Provide schematics which include sections and elevations accommodating program needs, code requirements for egress and handicap accessibility.
7. Develop a full facilities utility system requirement for the agreed-upon schematic design, utilizing, where cost effective, green building technologies and sustainable energy systems strategy. This shall include electrical, mechanical, communication, and fire systems. Provide energy system life cycle cost estimates as required by Massachusetts law.
8. Develop complete cost estimates and narrative for renovation and construction of proposed options, and for the purchase and installation of equipment and furnishings, including communications equipment. In developing cost estimates consider the removal of hazardous materials, if any, and the relocation/removal and installation of engineering systems (electrical, HVAC, etc.) and utilities (water supply, septic, phone, etc) and necessary structural repairs.
9. Develop a proposed Work Plan with critical review points and schedules and including a phasing strategy..

## **B. Presentation and Documentation Requirements**

1. Prepare for presentation purposes a CAD model, building layout plan, architectural elevation rendering plan sheets, layout of the building on the site plan as provided by the town.
2. Provide color renderings on illustration board of sufficient quality to be displayed during PTBC informational meetings and at other meetings as necessary (i.e. Board of Selectmen); provide photographic slides and renderings for the same purposes, as appropriate.
3. Provide a full narrative budget of estimated construction costs in breakdown detail.
4. All documentation, research, analysis, and narrative to be compiled and placed into a printed final document for the selected design including all plans, documentation, and supporting materials. Ten copies of such printed materials (one loose to be used for additional copies if needed) and two electronic copies in pdf format shall be submitted with the proposal.

### **C. Attendance Requirements**

1. Attend a minimum of three meetings with the PTBC, and a minimum of one meeting with the Board of Selectmen. Other meeting requirements may be needed and will be determined as we proceed. Two additional meetings should be budgeted for this proposal for a total of six.
2. Meet with the Building Inspector, Westford Fire Chief, Police Chief, Board of Health, and others to discuss building and safety requirements of the facility and ensure all applicable code compliance.
3. Meet with appropriate Department Heads to determine space needs. These Department Heads may include but are not limited to; Building Inspector, Town Clerk, Director of Conservation, Town Planner, Town Engineer, Finance Director, Town Assessor, Town Accountant, Town Treasurer, Human Resources Director, Town Manager, Director of Veterans Services, and Director of Board of Health.

### **IV. The Proposal Submission Package**

The proposal package shall consist of a completed copy of the Standard Designer Application Form for Municipalities and Public Agencies not within DSB Jurisdiction (2005), with attachments including the additional, project-specific information requested below. A copy of the Form is attached hereto. Each proposal shall describe the following with the maximum length indicated:

- 1) Understanding of the Project. Description of the Westford Town Hall issues and the work plan that would be followed by the proposer in meeting the services specified earlier (no more than five pages).
- 2) Proposer shall complete Certificate of Tax Compliance from the Department of Revenue, Department of Taxation as to all taxes paid in the Commonwealth of Massachusetts.
- 3) Proposer must complete Certificate of Non-Collusion, a Certificate of Authority, and a Statement on MGL Building Code. (examples attached)
- 4) The successful respondent will be required to indemnify, hold harmless, and defend the town against any and all claims, including attorney's fees, for all damages to life and property that may occur, by the contractor, any subcontractors, or any others under his/her control or influence. Proof of insurance is required indicating coverage for General Liability, Automobile Liability, and Professional Liability, each in the amount of \$1,000,000 minimum, and possess the statutory Workers Compensation insurance requirement per the Commonwealth of Massachusetts, with the Town of Westford named as additional insured.
- 5) All proposals must be unconditional and shall be deemed to be public records and will become the property of the Town of Westford.

- 6) The selected firm shall be expected to comply with all applicable state and federal laws in the performance of services.
- 7) The selection of the successful firm shall be made without regard to race, color, sex, age, religion, political affiliation, or national origin. Women and minority owned businesses are encouraged to apply.
- 8) Purchases of good and services by the Town of Westford are exempt from the payment of federal and Massachusetts state taxes.

## **V. The Evaluation of Proposals**

Proposals will be evaluated by members of the PTBC. Evaluations will be based on the comparative evaluation criteria below. Proposals will be evaluated in accordance with the provisions of Chapter 7, Section 38K(a)(ii) of the Massachusetts General Laws.

- a. The objective of the Town in reviewing proposals is to select an architect to complete the study including schematic designs and cost estimates for the existing Town Hall that can be used by the Town to determine the future use of the Town Hall and can be the basis of a subsequent phase for detailed building design.
- b. Any proposal that fails to include all of the information specified below in V.c.1. –V.c.4. and does not follow the proposal format and length limitation instructions above may be rejected as unresponsive by the evaluators. Any proposer may be required to discuss or clarify its proposal with the evaluation committee. The committee may determine that any unresponsiveness is not substantial and can be clarified. In such cases, the committee may allow the proposer to make minor corrections, except to the price proposal, and apply the change in the evaluation.
- c. Each proposal will be reviewed against the following Minimum Criteria. Any proposal that fails to meet the Minimum Criteria will be rejected. The Minimum Criteria are:
  1. The proposer must possess current license and registration by the Commonwealth of Massachusetts as an architect or professional engineer, with a minimum of five (5) years experience in the construction and supervision of public safety buildings. Evidence of the registration and licensing must be provided in the proposal.
  2. The proposer must have completed or designed at least five (3) public buildings of comparable or larger size than required for Westford.
  3. The proposer must have completed space needs analyses and conceptual or schematic designs for at least five (3) municipal facilities involving public financing.



4. All subcontractors utilized in this design must possess current Massachusetts licenses or registrations in the applicable disciplines.
- d. Each proposal determined by the evaluators to meet the Minimum Criteria will be ranked by the evaluators according to the comparative evaluation criteria described herein, and the evaluators will determine, in writing, an overall subjective rating for each proposal.

## **VI. Evaluation Criteria**

The PTBC is the evaluating committee. After the evaluating committee has determined that a proposal meets the minimum criteria and is complete, the proposal will be rated according to the following criteria:

### **Criterion A General Quality of the Response**

<b>Evaluation Criteria</b>	<b>Scoring Rubric</b>			
	<b>Highly Advantageous</b>	<b>Advantageous</b>	<b>Acceptable</b>	<b>Unacceptable</b>
General Quality of Response	Exceeded all RFQ requirements, including format, understanding of project, completeness of proposal	Met all RFQ requirements, including format, understanding of project, completeness of proposal	Met all basic proposal requirements, some follow-up for clarification and amplification of proposal elements may be allowed.	Did not meet one or more response requirements.

### **Criterion B Previous Project Experience**

<b>Evaluation Criteria</b>	<b>Scoring Rubric</b>			
	<b>Highly Advantageous</b>	<b>Advantageous</b>	<b>Acceptable</b>	<b>Unacceptable</b>
Experience with projects of similar size and scope	Management of >3 Chapter 149 public projects (\$3M to \$20M) AND	Management of >3 Chapter 149 public projects (\$3M	Management of 3 Chapter 149 public projects (\$3M to \$20M)	Management of fewer than 3 Chapter 149 public

	sustainable building and/or LEED experience	to \$20M)		projects.
Public Safety Building Experience	Management of >3 Municipal building projects, at least two of which were renovations/expansions of an existing facility.	Management of 3 or more Municipal building projects and 1 or more renovations of an existing facility	Management of 3 or more public safety building projects with no renovation experience	No experience with public safety buildings.
Historic Building Renovation Experience	Management of >3 historic building projects.	Management of 1 to 2 historic building projects		No experience with historic buildings.
Budget/Schedule Performance	3 or more projects 3 to 5 % under budget and completed early or on schedule	3 or more projects 1 to 3 % under budget and early or on schedule	3 projects within budget and on schedule	No projects within budget and/or on schedule

### **Criterion C References and Reputation**

<b>Evaluation Criteria</b>	<b>Scoring Rubric</b>			
	<b>Highly Advantageous</b>	<b>Advantageous</b>	<b>Acceptable</b>	<b>Unacceptable</b>
Reference checks	Outstanding recommendations from all reference checks, at least 3 of which involved renovation/expansions of Municipal buildings.	Outstanding recommendations from all reference checks.	Good or “would-repeat” recommendations.	Any references which indicated caution or expressed any reservations.

### **Criterion D Project Approach**

<b>Evaluation Criteria</b>	<b>Scoring Rubric</b>			
	<b>Highly Advantageous</b>	<b>Advantageous</b>	<b>Acceptable</b>	<b>Unacceptable</b>
Project Approach	Proposer provided an excellent response which made appropriate reference to all of the items under the Scope of Services and proposal content	Proposer provided an excellent response and addressed most of the items under Scope of Services and proposal content	Proposer provided an adequate response that addressed the items under Scope of Services and proposal content	Proposer did not provide adequate responses to the items under Scope of Services and proposal content

#### **Criterion E Proposed Staffing**

<b>Evaluation Criteria</b>	<b>Scoring Rubric</b>			
	<b>Highly Advantageous</b>	<b>Advantageous</b>	<b>Acceptable</b>	<b>Unacceptable</b>
Team Members	Highly qualified staff; project leader with outstanding personal recommendations and specifically relevant experience (Municipal buildings); staff back-up and additional resources available if needed.	Highly qualified staff; project leader with outstanding personal recommendations.	Qualified staff; good project leader recommendations.	Inadequate information regarding proposed team members and/or project leader: qualification, background, experience, recommendations.

#### **Criterion F Firm Stability and Capacity**

<b>Evaluation Criteria</b>	<b>Scoring Rubric</b>			
	<b>Highly Advantageous</b>	<b>Advantageous</b>	<b>Acceptable</b>	<b>Unacceptable</b>
Firm Stability and Capability	Strong demonstration of financial stability and capacity to	Strong demonstration of financial stability and capacity to	Adequate demonstration of financial stability and capacity.	Inability to demonstrate financial stability and/or

		undertake project. Demonstration of civic recognition, and overall excellent company reputation.	undertake project.		available capacity to undertake project within required timeframe.
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### **Finalist Interview—if invited**

<b>Evaluation Criteria</b>	<b>Scoring Rubric</b>			
	<b>Highly Advantageous</b>	<b>Advantageous</b>	<b>Acceptable</b>	<b>Unacceptable</b>
Interview	Proposer clearly reviewed the process as it would unfold, described the work that would be delivered, and was convincing of the depth of their expertise and established a comfortable dialogue with the selection committee.	Proposer clearly reviewed the process and work product and established a comfortable dialog with selection committee.	Proposer described the process and the work product.	The proposer did not adequately describe the process or work product.

### **VII. Submittal Process**

Proposals are due by **10:00 a.m. on May 8th, 2008** in hard copy form.. No FAX or emailed submissions will be considered.

Deliver proposals by hand or by delivery service to:

Westford Highway Facility  
c/o John Livsey, Town Engineer  
28 North Street  
Westford, MA 01886

Proposals must be sealed in an envelopes or packages, clearly marked “PROPOSAL FOR WESTFORD TOWN HALL”.

The proposer’s name and address should be on the outside of the envelope.

Please make note of the Engineering Department open hours, available on the town’s website <http://www.westfordma.gov> when scheduling delivery.

Provide 10 copies of the proposal in final form (one loose copy in case additional copies are needed). Provide 2 copies in electronic pdf format.

Late proposals or modifications received after the date and hour of deadline will not be considered.

Information contained in the proposal shall be incorporated into and become part of the contractual obligations in the event the applicant is selected.

Questions must be submitted in writing, via email, FAX, or U.S. Mail to the Town Engineer at least three (3) days prior to the deadline for proposal submittal. All parties who have received a copy of the RFP will also be notified of any published answers to substantive questions.

Neither the Town of Westford, nor the Permanent Town Building Committee shall be liable for any costs incurred by proposers in preparing, submitting or presenting proposals, or in satisfying and demonstrating requirements.

A proposal may be withdrawn by written request prior to the deadline. Modifications may be submitted prior to the deadline in writing, no later than 10:00 a.m. May 8th, 2008, and accompanied by a letter of transmittal signed by an authorized official of the firm.

#### **VIII. Pre-proposal Briefing Session:**

A Pre-proposal Briefing Session will be held on **Thursday, April 24th, 2008 at 10:00AM** at the Police Station, 53 Main Street, Westford, MA and will include a walkthrough of Town Hall. After the conclusion of the Briefing Session, any questions or requests for clarification must be submitted in writing to John Livsey, Town Engineer, Westford Highway Facility, 28 North Street, Westford, MA 01886 or via email [jlivsey@westfordma.gov](mailto:jlivsey@westfordma.gov).

#### **IX. Designer Selection Process**

The Westford Board of Selectmen is the awarding authority. It has assigned the Town Manager and the Permanent Town Building Committee the task of soliciting and evaluating proposals, with the ultimate goal of recommending a contract for award.

No member of the Permanent Town Building Committee may have any financial interest or any other connections to a design firm being considered for the project.

The PTBC will select a minimum (if available) of three applicants for an interview after evaluating all proposals using the same criteria outlined in this RFP. The committee will interview the finalists, and will rank them in order of qualification and quality of response. The committee requires that the architect who will be the principal contact for the project participate in the interview. All actions by the committee will be made in posted public meetings with

appropriate minutes taken, including any and all votes, and applicable written statements explaining the choice of rankings.

Determination of the winning applicant will be made by the Westford Board of Selectmen, based upon the recommendations of the PTBC.

The Board of Selectmen reserves the right to reject any and all applicants if such rejection is in the best interests of the Town of Westford.

The PTBC reserves the right to negotiate the contracted fee for the feasibility and design services, not to exceed **\$35,000**. The winning applicant shall submit a fee proposal that includes a lump sum, fixed fee, along with the following information:

1. Percentage of time to be devoted to the project by key individuals;
2. Hourly rates for personnel and the estimated number of hours each will devote to the project;
3. Hourly rates proposed to charge for each subconsultant and the estimated number of hours that will be devoted by each subconsultant;
4. Itemized breakdown of all other costs included in the fee proposal; and
5. Markup, if any, that will be added to costs, including subconsultant fees, resulting from a change in the scope of the work.

If the Board of Selectmen is unable to negotiate a reasonable fee with the top-ranked proposer, negotiations will be terminated and undertaken with the remaining designers, one at time, in the order in which they were ranked by the PTBC, until an agreement is reached.

In no event may a fee be negotiated which is higher than the maximum fee of \$35,000. If the Board of Selectmen is unable to negotiate a satisfactory fee with any of the finalists, the Board shall recommend that the Committee select additional finalists.

## **X. Proposed Timeline**

<b>RFP Issued</b>	<b>4/16/08</b>
<b>Ads for Designer published in Central Register</b>	<b>4/15/08 CR</b>
<b>Pre-bid Information Session</b>	<b>4/24/08 - 10:00 a.m.</b>
<b>Proposal Submission Deadline</b>	<b>5/8/08 - 10:00 a.m.</b>
<b>Proposals Finalists Selected</b>	<b>May</b>
<b>Finalists Interviews Completed</b>	<b>May</b>
<b>Committee Recommendation to Selectmen</b>	<b>May/June</b>
<b>Contract Award Announced</b>	<b>June</b>
<b>Preliminary Designs and Cost Estimates Due</b>	<b>June/July</b>

<b>Presentations to Town Boards/Public Comment Period</b>	<b>June/July</b>
<b>Final Design/Budgets/Presentation Complete</b>	<b>July</b>
<b>Presentation to Town Meeting for Funding</b>	<b>October</b>

## **XII. General Provisions:**

1. The Town of Westford reserves the right to reject any or all proposals or any parts thereof or to solicit new proposals and to award contracts as it deems in the best interest of the Town.
2. All proposals must be unconditional and will become the property of the Town of Westford.
3. The selected proposer shall be expected to comply with all applicable state and federal laws in the performance of services.
4. All plans, schematic proposals, various design alternatives, specifications, and other documents resulting from this contract shall become the property of the Town of Westford.
5. The Town of Westford reserves the right to allow that the successful proposer be eligible for the contract for production of final design and construction documents through construction administration, pending independent review, in accordance with Massachusetts Designer Selection Law, and subject to appropriation for additional project phases.
6. The selection of the successful proposer shall be made without regard to race, color, sex, age, religion, political affiliation, or national origin. Women and minority owned businesses are encouraged to apply.

## **CERTIFICATE OF NON-COLLUSION**



## **APPENDIX B**

### Structural Engineer's Report

July 15, 2008

Ms. Kaffee Kang  
410 Boston Post Road  
Sudbury, Ma 01776

Reference: Westford Town Hall

Dear Kaffee,

As requested the Westford Town Hall was observed on Tuesday July 1, 2008. Visual observations were made in the basement, first floor, second floor, and attic. No exploration holes were made. Dimensions of typical structural members, particularly in the basement, were noted. Structural calculations subsequently were made, and the Ipswich River Engineering report dated November 29, 2007 reviewed. Calculations were made based on code minimum live loads of fifty (50) pounds per square foot for office areas and one hundred (100) pounds per square foot for the first floor corridor and eighty (80) pounds per square foot for the second floor corridor.

The building is two stories in height with basement and attic. The footprint dimensions are approximately sixty (60) feet wide by eighty (80) feet long with an entry projection at the front. The construction is ordinary wood framing on a rubble stone foundation with granite topping on three sides. The vault is of concrete construction.

The joists and beams as presently configured are not capable of supporting the specified minimum live loads within general acceptable engineering standards. The following repairs are recommended:

1. Add joist hangers at all first floor beams and sill supports.
2. Add joist hangers to all second floor beam supports.
3. Add joist hangers at all attic truss bottom chord supports.
4. Add columns and footings at approximately mid-span of first floor beams. (see SKS1, SKS2, and SKS4)

**(Westford town hall)**  
(Building Observation)

7/15/2008)  
Page 2 of 2

5. Add new beams under all second floor beams with new columns from first floor to second floor. (see SKS3 andSKS4)
6. Sister all broken first and second floor joists.
7. Sister all first floor and second floor joists supporting heavy concentrated loads such as safes or files.
8. Sister all attic joists at any new equipment areas.

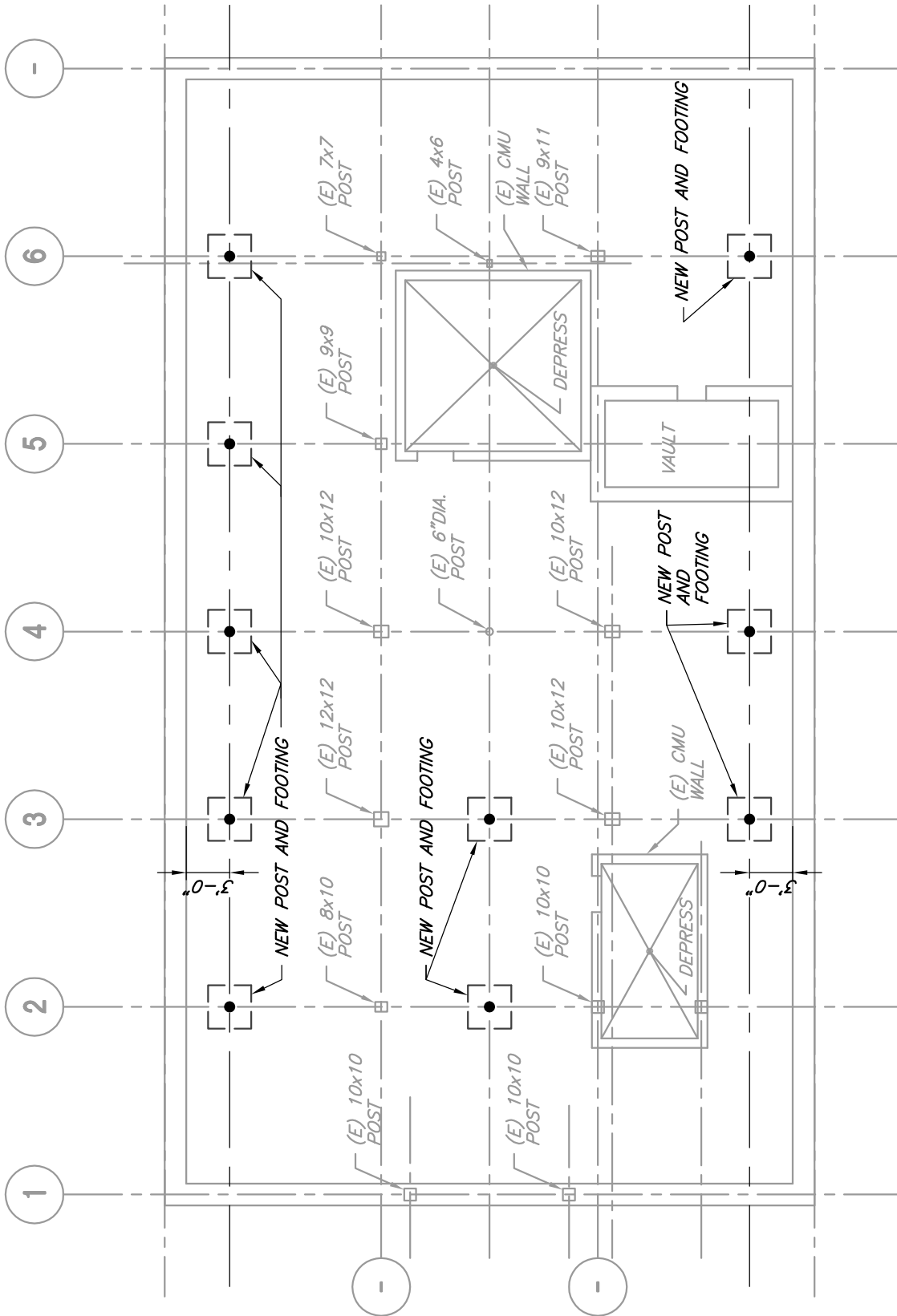
We also recommend that additional exploration holes be made to verify exact details of recommended repairs and to verify the load path for the support of the cupola. We assume that the first floor ceiling will be eventually removed for final assessment of all conditions of all second floor joists and the basement cleared for final assessment of the conditions of all first floor joists.

If you have any questions please do not hesitate to call.

Very Truly Yours,

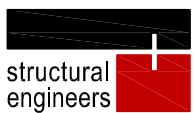
A handwritten signature in black ink, appearing to read "Richard A. Foley". The signature is fluid and cursive, with the first name "Richard" being the most prominent part.

Richard A. Foley  
2008202 Westford Site Report



# **BASEMENT PLAN**

3/32"=1'-0"



**Foley Buhl Roberts**  
& ASSOCIATES INC

T 617-527-9600  
F 617-527-9606

www.fbra.com

2150 Washington St.  
Newton MA 02462

**Westford Town Hall**  
**Westford, Massachusetts**

**BASEMENT PLAN**

Scale: AS NOTED

Date: 7/15/08

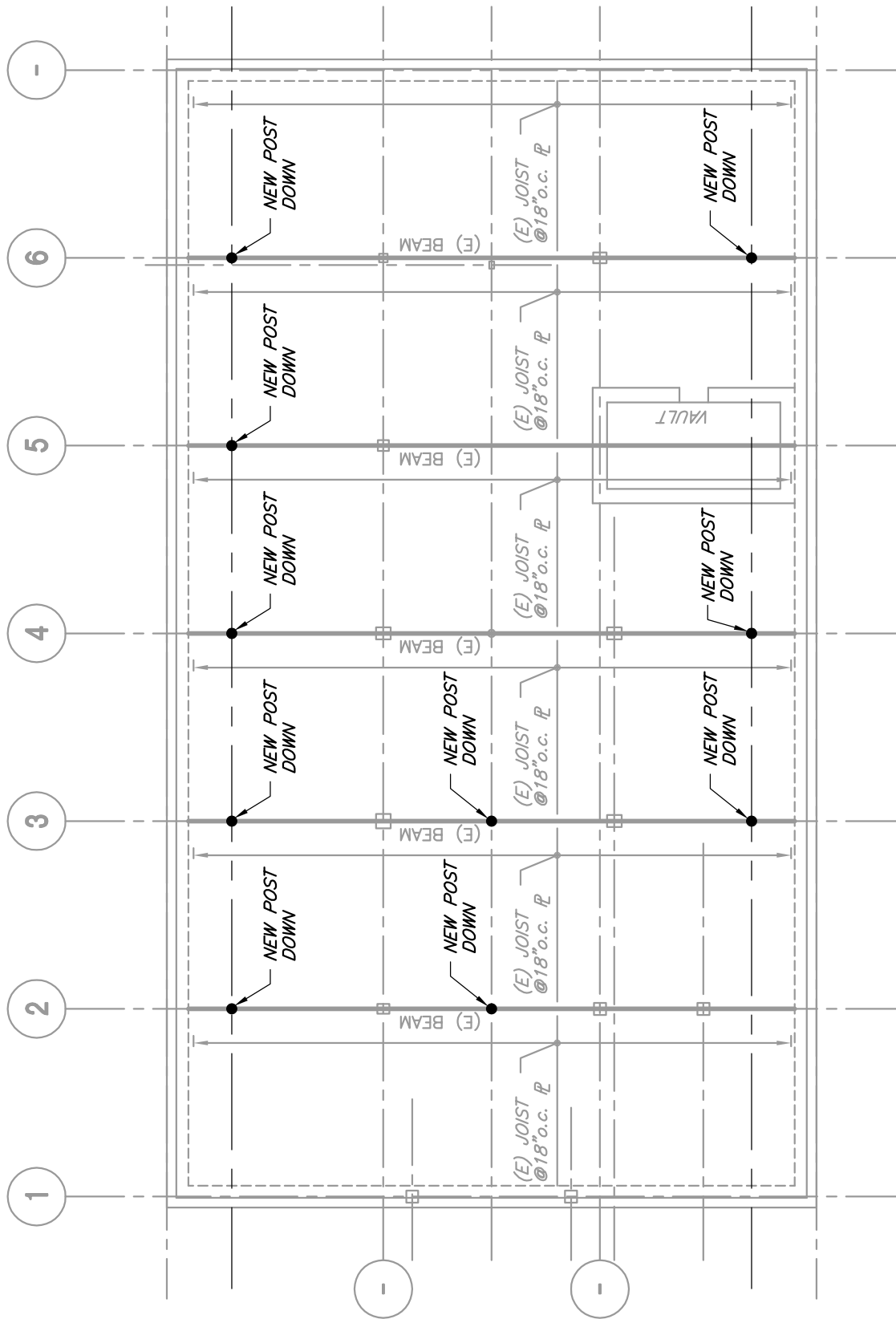
Drawn: PAS

Checked: RAF

Drawing Number

**SKS**

**1**



# **FIRST FLOOR FRAMING PLAN**

3/32" = 1'-0"



T 617-527-9600  
F 617-527-9606

www.fbra.com

2150 Washington St.  
Newton MA 02462

***Westford Town Hall  
Westford, Massachusetts***

***FIRST FLOOR FRAMING PLAN***

Drawing Number

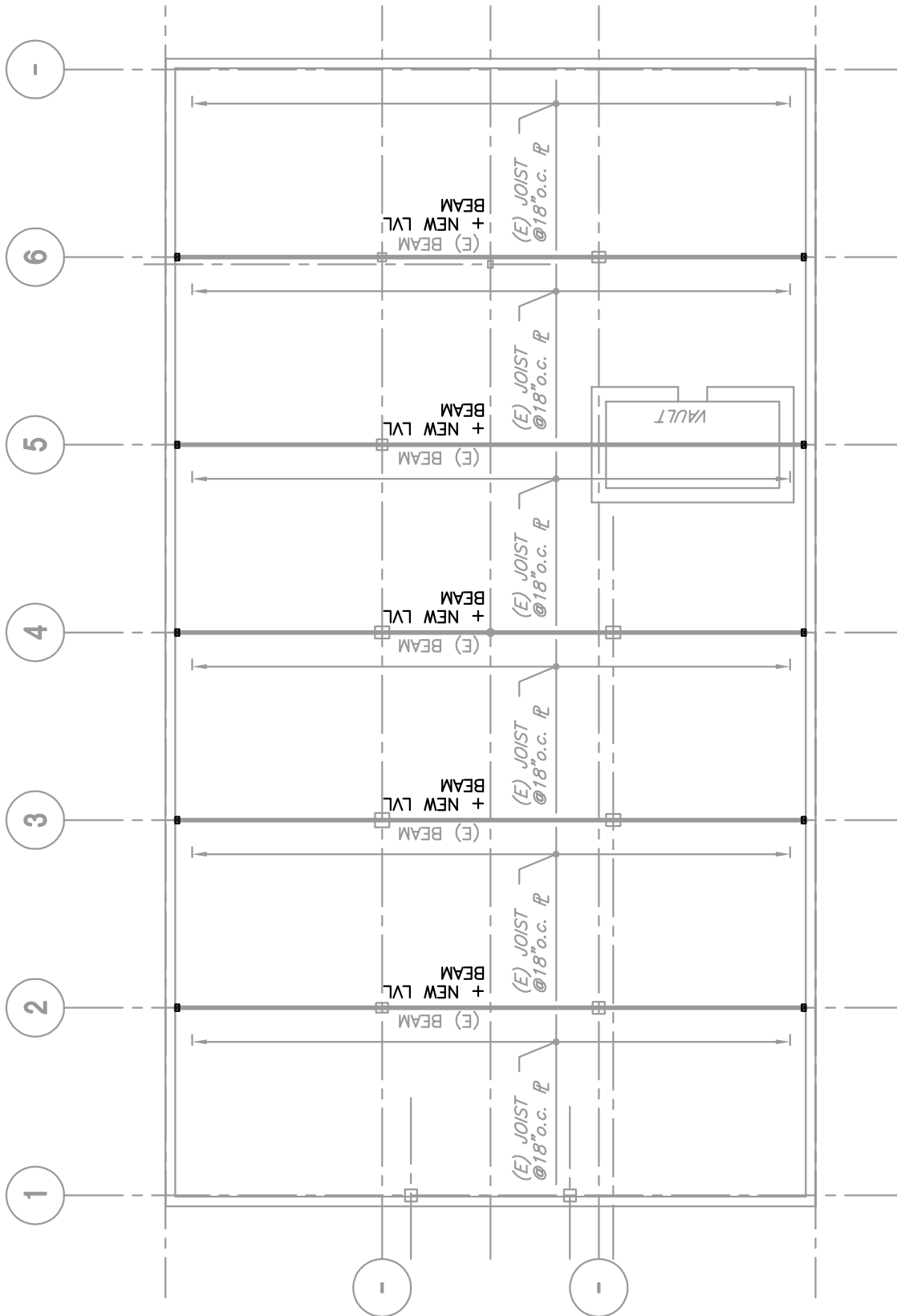
**SKS  
2**

Scale: AS NOTED

Date: 7/15/08

Drawn: PAS

Checked: RAF



**SECOND FLOOR FRAMING PLAN**

3/32"=1'-0"



**FoleyBuhlRoberts**  
& ASSOCIATES INC

T 617-527-9600  
F 617-527-9606

www.fbra.com

2150 Washington St.  
Newton MA 02462

**Westford Town Hall**  
**Westford, Massachusetts**

SECOND FLOOR FRAMING PLAN

Scale: AS NOTED

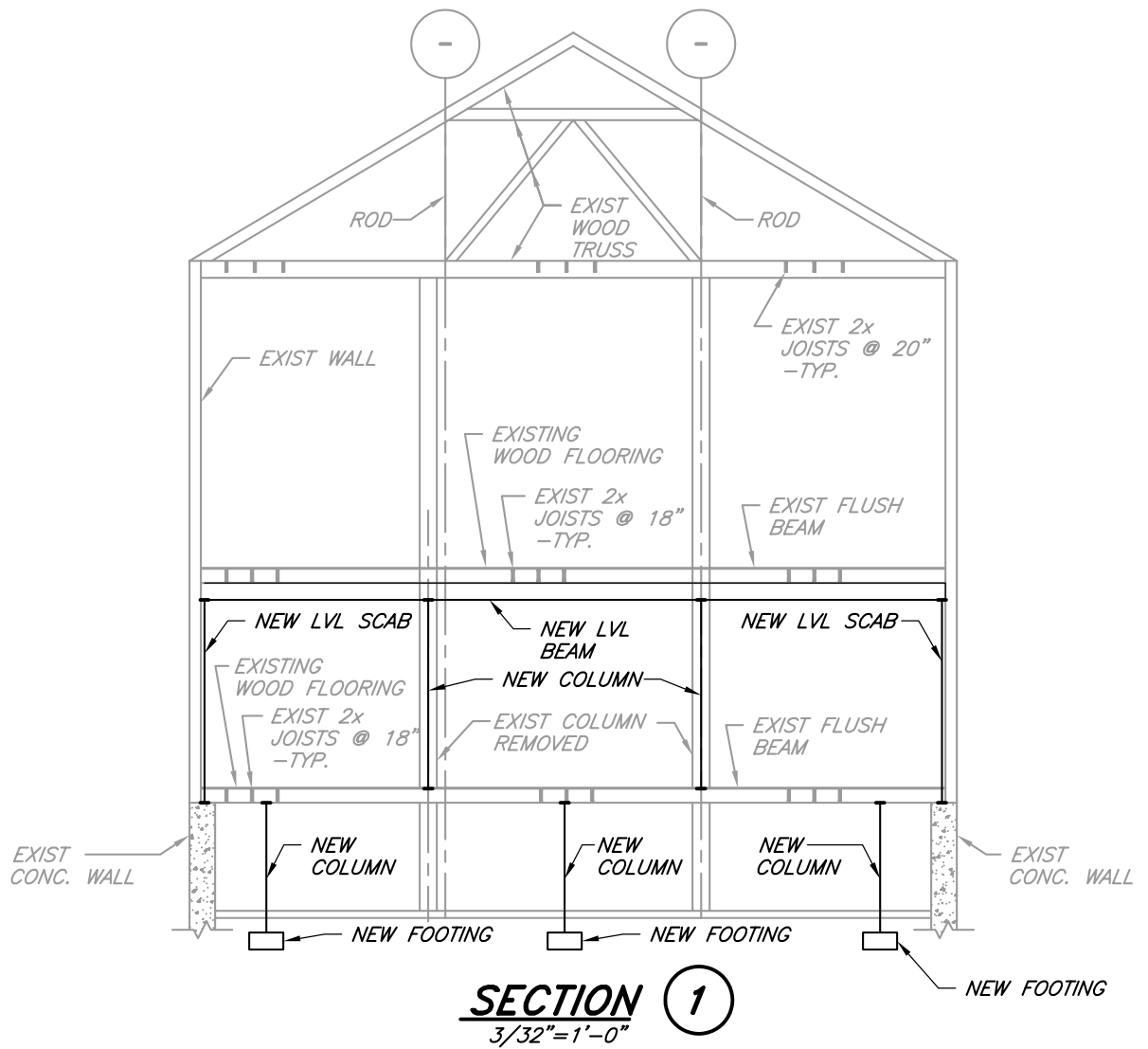
Date: 7/15/08

Drawn: PAS

Checked: RAF

Drawing Number

**SKS**  
**3**



**Foley Buhl Roberts**  
 & ASSOCIATES INC

T 617-527-9600  
 F 617-527-9606

www.fbra.com

2150 Washington St.  
 Newton MA 02462

**Westford Town Hall**  
**Westford, Massachusetts**

SECTION

Drawing Number

**SKS**  
**4**

Scale: AS NOTED

Date: 7/15/08

Drawn: PAS

Checked: RAF

## **APPENDIX C**

### Mechanical/Electrical Engineer's Report





**MacRITCHIE ENGINEERING INCORPORATED**

197 Quincy Avenue, Braintree, MA 02184

Tel. (781) 848-4464 Fax (781) 848-2613

Westford Town Hall Report

Fire Protection

The Westford Town Hall does not have an automatic fire suppression system.

The newly renovated Westford Town Hall will be fully fire protected with an NFPA-13 compliant fire suppression system.

The source of water will be the municipal water system that will be extended to the building.

The unheated attic space and space directly below the unheated attic will be served by a dry sprinkler system.

All other portions of the building will be served by a wet sprinkler system.

The zoned sprinkler system will be connected to the new addressable fire alarm system.

Plumbing

The existing plumbing system mixes old and new and, although currently functional, will be replaced in its entirety.

The gas service to the building will be increased in capacity to meet the full heating needs of the existing building and renovation. (The building is currently, partially, heated by oil.)

HVAC

The building is currently heated, ventilated and air conditioned by a variety of oil fired and newer gas fired furnaces, with multiple "split-system", direct expansion units.

The direct expansion cooling includes cooling coils matched to gas fired furnaces and wall mounted "ductless" split systems.

Whenever a new temperature zone is required, an additional system was added. The result is a large quantity of condensing units around the building exterior.

The new Seventh Edition of the Building Code does not recognize operable windows as a source of ventilation air. A newly renovated building will result in much less infiltration air than the exterior building envelope.

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197 Quincy Avenue, Braintree, MA 02184

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To allow for ease of zoning, proper ventilation and less mechanical “clutter” about the building exterior, a completely new HVAC system is recommended.

To allow for the restoration of interior finishes, an HVAC system that minimizes ductwork is recommended. Consequently, a fan coil system is recommended.

### HVAC Alternatives

General: The Westford Town Hall is to be renovated and expanded with an addition to the rear.

The first floor of the existing building has a relatively tall floor to ceiling height and could be capable of supporting a ducted HVAC system. However, high windows and the desire to preserve the interior architecture of the building precludes a general approach of a ducted HVAC system.

For all office portions of the building, a fan coil system is recommended with three separate options, outlined as follows:

1. Four Pipe Fan Coil System
2. Two Pipe Fan Coil System
3. Two Pipe Fan Coil System with auxiliary electric heat

Each of the fan coil systems will require a supplemental ventilation system with several areas with large, variable occupancies having dedicated, ducted systems. Those areas will include any assembly and / or meeting rooms and the Selectmen’s Chambers.

Fan coil units are simple heating and cooling units consisting of an air filter, fan and one or two coils. They are low maintenance, long lasting pieces of equipment.

Cooling will be provided by a packaged air cooled chiller. Heating will be provided by high efficiency, gas fired, condensing boilers.

### Option #1 – Four Pipe Fan Coil Units

Four pipe fan coil units contain two coils. One coil is for heating piped to a dedicated hot water pipe distribution system. The second coil is for cooling and piped to a dedicated chilled water system.

The chilled water system will be shut off in the winter. The hot water system will be shut off in summer. During marginal spring and fall weather, both systems may be operational.

A four pipe fan coil system is considered by many to be the most comfortable of all HVAC systems.

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197 Quincy Avenue, Braintree, MA 02184

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However, because of the cost of two parallel piping systems, it is also a considerably more expensive system. A typical premium cost is in the six to eight dollar (\$6.00-\$8.00) range per square foot of building area.

#### Option # 2 - Two Pipe Fan Coil Units

Two pipe fan coil units contain a single coil piped to a common piping system. The system contains hot water in winter and chilled water in summer.

For a four to six week period each spring and fall, the system can experience periods of discomfort. In the morning a small amount of heat may be required, but by afternoon cooling may be required. Or, the sunny side of the building may require cooling while areas in the shade require heat. It typically takes four to six hours or more to switch from heating to cooling (or vice versa) because of the residual water temperature in the piping system.

#### Option # 3 - Two Pipe Fan Coil Units With Auxiliary Electric Heat

This system would consist of a two pipe fan coil system with a small amount of electric heat in each fan coil unit.

During the marginal spring and fall weather, chilled water would be provided for cooling, but individual fan coil units could use the small electric heating elements for space heating on an as needed basis.

This is a low first cost premium (about \$2.00 per sq. ft.) that over comes the inherent deficiency of a straight, two pipe fan coil system.

When hot water is circulated, a temperature sensor will automatically prevent the use of the more costly electric heat.

Chilled water capacity (size of chiller and chilled water pumps) will take advantage of the diversity between office use and occupancy of the large assembly hall.

The outside ventilation air in the following areas will be minimized during periods of low occupancy via the use of CO2 controls:

- Selectman's Meeting Room
- Meeting Rooms and / or Assembly Hall
- General Office Ventilation

Each of these areas will have a dedicated air handling unit to serve the individual spaces.



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If there is to be a computer room (I.T. room), the space would be served by a dedicated system. The degree of redundancy and future capacity will need to be determined.

Electrical

The existing electrical service comes overhead from a pole located on Main Street. The service splits on the exterior of the building after the meter into two 200A 120/240 Volt single phase services.



In the basement there are two 200A single phase loadcenters. Each of these loadcenters have numerous electrical code violations. One 200A panel is labeled 330-W-52 and has 46 poles in use with three open spaces. By code this panel cannot contain more than 42 poles. This panel does not have any sub-panels. The second 200A panel has two 100A branch circuit breakers. One of the 100A branch breakers feeds a subpanel. The subpanel in turn feeds an additional subpanel located in the attic. The second 100A branch circuit breaker feeds an automatic transfer switch (ATS). The ATS in turn feeds a 100A subpanel. This subpanel in turn feeds subpanels on the second and third floor. The ATS appears fairly new, but no generator was found. We assume there is an emergency feed coming over from the police station.

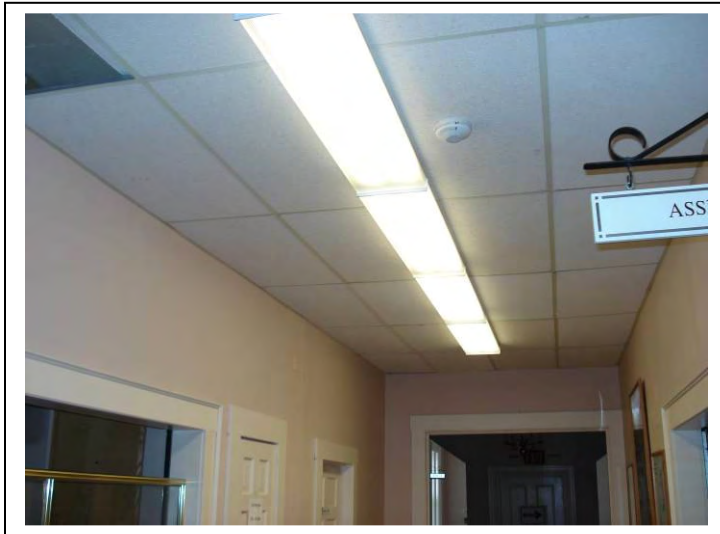


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Lighting is comprised mostly of older four foot surface mounted wraparound fixtures



The fire alarm is an obsolete four zone conventional panel located in the basement at the bottom of the stairs. There is a remote annunciator at the front door facing Main Street. The fire alarm panel has exposed unprotected wiring running to and from devices.



Pull stations are located at the exits but do not meet current code height requirements. Heat detectors are used in the corridors. While heat detectors will eventually trip and send an alarm. Heat detectors do not provide early enough warning to effectively save lives and as such are not consider a life safety device. Due to the construction of the building it is doubtful that if a heat detector went off if there would be enough time to even save the building.



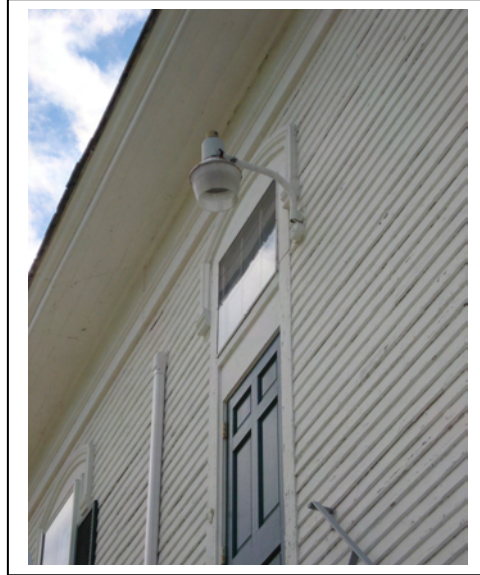
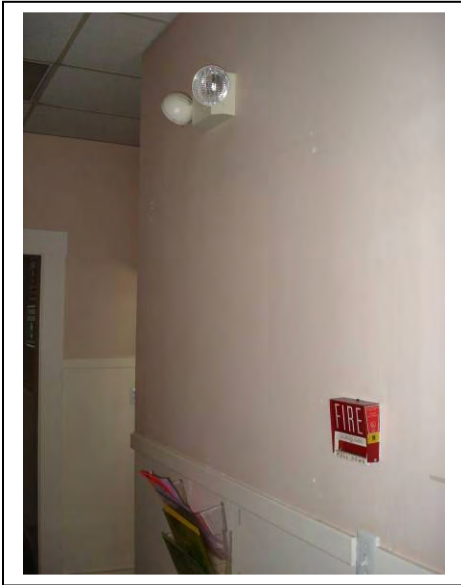


**MacRITCHIE ENGINEERING INCORPORATED**

197 Quincy Avenue, Braintree, MA 02184

Tel. (781) 848-4464 Fax (781) 848-2613

Emergency lighting is provided by wall mounted battery units. The units we tested failed.



Exterior lighting, while possibly functional is not appropriate for the building type or location.

No emergency lighting was evident on the exterior of the building.

Recommendations

None of the existing building systems, including but not limited to the power, light, fire alarm and emergency lighting systems are worth keeping. The only possible exception is the automatic transfer switch. The ATS appears to be fairly new and in good shape. Based on the quality of the installation that we reviewed, none of the existing systems can or should be reused. New service can be brought in from Main Street properly sized for the building based on current and projected future loads.

## **APPENDIX D**

### Code Analysis

## December 5, 2008

page 1 of 5



### 3. Allowable area

- a. Base allowable area: 9,000 sf/floor table 503
- b. Add allowable area increases due to increased street frontage in excess of 25% of the building perimeter: 506.2  
(Calculate according to equation 5-2)
- c. Add allowable area increases for buildings with sprinklers: 200% 506.3
- d. Proposed floor areas:  
First floor: 5,920 sf  
Second floor: 5,360 sf

### 4. Allowable height

- a. Base allowable heights: table 503  
B use: 2 stories, 40 ft.
- b. Add allowable height increase for sprinklers: 1 story, 20' 504.2  
B use: 3 stories, 60 ft.
- c. Roof structures (towers, spires, etc.): unlimited if noncombustible, 20 ft. above max. height if combustible 504.3
- d. Zoning: Westford Zoning Bylaw height regulations do not apply to public buildings Bylaw section 4.2.1
- e. Existing/proposed height: 2 stories, 44 ft., with 23 ft. tall tower and 8ft. spire (complies with 3b & c)

### 5. Fire protection

- a. Required in Business occupancies over 12,000 sf. 903.2.2
- b. Required in buildings over 7,500 sf. MGL c.148 §26G
- c. Proposed gross floor area: 11,280 sf.
- d. Storage areas over 100 sf. and Boiler/furnace rooms require sprinklers and smoke barriers or 1 hour separation. 302.1.1.1 & Table 302.1.1

## 6. Means of egress

- a. Design occupancy load: 113 (100 gross sf/occupant) table 1004.1.2
- b. Number of exits
  - Minimum: 2 1014.1
  - Minimum accessible: 2 1007.1
  - (Not required in alterations to existing buildings) exception 1
  - Provide exterior assisted rescue area where exit discharge is not 1007.2(1)
  - accessible. Exterior separation wall must be 1 hour rated for 10 ft. 1007.8
  - Exits from boiler or furnace room over 500 sf: 2 1014.3
- c. Location of exits
  - Maximum length of travel: 250ft. with sprinklers table 1015.1
  - Maximum common path of travel: 100 ft. 1013.3
  - Maximum dead end corridors: 50 ft. with sprinklers 1016.3(2)
- d. Capacity of egress components (with sprinklers) table 1005.1/
  - Stairways: 113 people x 0.2"/person = 22.6" or 44" min. 1009.1
  - Doors: 113 people x 0.15"/person = 17" or 32" min. 1008.1.1
  - Ramps: 113 people x 0.15"/person = 17" or 44" min. 1010.5.1
  - Exit corridors: 113 people x 0.15"/person = 17" or 44" min. 1016.2
- e. Stairway design
  - Minimum headroom: 80" 1009.2
  - Maximum vertical rise: 12 ft. 1009.6
  - Riser height: Max. 7" and min. 4" 1009.3
  - Minimum tread depth: 11" 1009.3
  - (See Chapter 34 for the replacement of existing stairways ) exception 6
- f. Ramp design
  - Minimum headroom: 80" 1010.5.2
  - Maximum slope: 1 in 12 1010.2
  - Maximum rise between landings: 30" 1010.4
- g. Doorway design
  - Distance between doors in series: Minimum 4 ft. plus width of door 1008.1.7
  - Max. occupancy for only one exit from a space: 50 1014.1

h. <u>Handrails and guards</u>		
Minimum guard height:	42"	1012.2
Maximum space in guards:	4" up to 34" ht., 8" from 34-42", 6" at riser/tread triangular openings	1012.3
Required at platforms more than 30" above level below		1012.1
Handrail height:	Min. 34" and max. 38"	1009.11.1
Handrail grip (circular):	Min. 1¼" and max. 2"	1009.11.3
Handrail extensions:	12" beyond top riser (horizontally)	1009.11.5
	Tread width beyond bottom riser (sloped)	
Required on both sides of stairs and ramps		1009.11

## 7. **Energy Conservation**

Note: Chapter 13, "Energy Conservation", was amended on 10-17-08 and is now titled "Energy Efficiency". Compliance with the International Energy Conservation Code (IECC) 2006 and 2007 supplement as amended by 780 CMR chapter 13 is required. 1301.1

- a. Climate zone: 5

## 8. **Structural loads**

a. <u>Minimum uniformly distributed live load</u>		table 1607.1
Lobbies, first floor corridors):	100 psf	
corridors above first floor:	80 psf	
offices:	50 psf	
file and computer rooms:	based on occupancy	
b. <u>Snow load</u>		table
Westford:	55 psf	1604.10
c. <u>Wind load</u>		table
Basic wind speed:	100 mph (For Exposure C category)	1604.10
d. <u>Guardrails and handrails</u>		
concentrated:	50 lbs./lin. ft.	1607.7.1
uniform:	200 lbs.	1607.7.1.1
e. <u>Earthquake loads:</u>	structurally attached additions shall be designed under Chapter 34	1614.1(3)

## 9. Repair, Alteration, Addition to Existing Building

- a. Applicability 3400.3(4)  
Additions to existing buildings shall comply with all code requirements for new construction, except as indicated in chapter 34, Existing Structures
- b. Existing buildings with no change in use group 3404.0  
Any new building system must conform to code requirements for new construction. Individual components of an existing system may be repaired or replaced without requiring the system to comply with the code. 3404.3
- Existing stair enclosures are not required to be rated. Any new construction added to enclose a stairway shall have a minimum 1 hr. rating 3404.13
- Existing building shall comply with MAAB. 3404.18
- c. Energy conservation 3407.1  
Comply with the International Energy Conservation Code (IECC) 2006 with the 2006/2007 supplement and the MA amendments as provided in Chapter 13 (amended 10-06-08)
- d. Structural Requirements 3408.1.2  
Structural systems of existing buildings shall conform to the building code that was in-force at the time of the initial permit application
- Level of Work: Level 4 - increase in total framed floor and roof area due to structurally attached additions that is more than 10% of the total framed floor and roof area that existed on Feb. 28, 1997. Or increase in effective seismic weight with or without structurally attached additions that is more than 10% of the effective seismic weight of the building that existed on Feb. 28, 1997 3408.4.5
- Snow Loads: existing building - 85% of snow load required by 1608. addition - 100% of snow load required by 1608. 3408.8.2.1

## **APPENDIX E**

### Space Needs Questionnaire

**Town of Westford  
Space Needs Questionnaire**

Name: \_\_\_\_\_

Dept.: \_\_\_\_\_

1. How many people work in your department and what are their functions? Please indicate full time and part time personnel. What do you anticipate will be your future staffing?
  
  
  
  
  
  
  
  
  
  
2. How do members of your staff interact with each other in performing their duties?
  
  
  
  
  
  
  
  
  
  
3. What hours is your department open? Do you post evening hours? Do you anticipate your hours changing?
  
  
  
  
  
  
  
  
  
  
4. Is it desirable or necessary for your department to interact with the public? If yes, what is the nature of this interaction? How frequent is this interaction? If no, is it undesirable for the public to have easy access to your department offices?
  
  
  
  
  
  
  
  
  
  
5. With what other departments does your department interact? What is the nature of this interaction and how frequent is it? Do you share any equipment (e.g., copiers, printers, faxes) and if so, with whom? Is sharing a problem?

6. Do you or your department have any need for privacy? Please describe a typical situation where privacy is needed.
7. Do you or your department have need for meeting space? How many people would be meeting? How often do you meet?
8. Evaluate your current space in meeting the needs you have described. What problems do you have with your space?
9. What other spaces in the building would you like to have that you do not currently have (e.g., lunch room, storage)?
10. Please provide a list of your current furnishings and equipment that you will keep or will need to have replaced with comparable items. Please be as specific as possible.

Desks:

Workstations (L-shaped):

File cabinets:

Lateral file cabinets:

Flat file cabinets:

Tables (please indicate sizes):

Chairs:

Safes:

Bookcases:

Computers:

Printers:

Copiers:

Faxes:

Other:

11. What percentage of your current stored files do you consider important for you to be able to access on a daily basis?

12. Do you anticipate needing additional furniture? If, so, please list.



## **APPENDIX F**

### Comments from Town Boards and Committees



Message

Tue, Nov 18, 2008 7:32 AM

From: fpalmer25@verizon.net  
 Fred Palmer <fpalmer25@verizon.net>

To: Jodi Ross

Subject: Senior Center renovations

Attachments: Attach0.html

3K

Jodi, this is in response to your request last week for input from the town boards regarding the proposed town hall and senior center expansions. Since I am a part-time employee of the senior center I have recused myself from our Planning Board public hearings on the Cameron Senior Center project. For that reason I do not feel it appropriate for me to add my comments to any document that the Planning Board will develop and share with you and the Board of Selectmen for expansion of the senior center. Therefore, the below comments represent only those of a town resident. They are basically what I said at the November 6 joint boards meeting.

In 2007 the Town has passed a debt exclusion authorizing \$4M for the expansion of the Cameron Senior Center. I think that if at all possible under these tough financial times we should honor that vote.

The senior center badly needs several private offices for some staff members (Joanne & Judy) and for private consultations with patrons and families about services, taxes, health care, etc.

The senior center also would benefit from a function room large enough to hold the 4-5 large functions held each year.

If these revisions are made, we'll have to ensure that the entire structure is brought up to codes. (fire, ADA, etc)

It appears from discussions at the November 6 joint boards meeting as well as the last Planning Board meeting that local residents are upset about the expanded size of the facility/parking and how it will impact the playing field and embankment to the lake.

Based on the above comments I feel that the proposed scope of the expansion should be scaled back. A smaller expansion would require less money, less parking, and less taking of the recreational field. While it might be nice to have a fitness room with showers and a commercial kitchen, these do not exist now and are hardly essential. Contrary to what some have stated, this facility is not bursting at the seams and I suspect not so in the future. Many areas of the building are under-utilized now. I also have an idea about creating a large enough area for functions. If the rear wall of the existing lunch area/multiuse room were knocked out and an equal sized or larger area were built off the end, this would seem to be of adequate size to hold functions. This would be far smaller than what has been proposed. It would cost less, require less new parking and less taking of the recreational field.

Share this email with others as you see fit. Thanks for listening. Fred Palmer



Message

Fri, Nov 14, 2008 12:42 PM

From: Bill Turner

To: BOS

Cc: Jodi Ross Norman Khumalo

Subject: Marilyn Frank comments Regarding Town Hall

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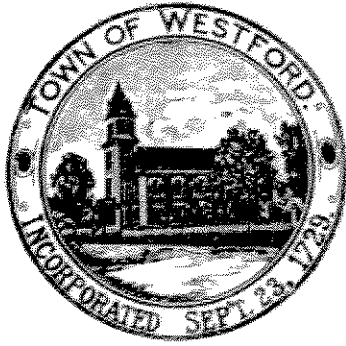
To the Selectmen: The Conservation Commission discussed proposals regarding Town Hall renovations/additions at its meeting of November 12, 2008. The Commission did not reach a consensus on a recommendation, but agreed that individual members would submit comments. The following are Marilyn Frank's comments:

This is my response on Town Hall - my input. I believe that Town Hall should be restored/refurbished as a priority. I think all the Departments need to be under one roof and that it would maximize efficiency, costs and convenience for the public. In addition it would keep this building, in the center, as a public building and help maintain the character of Westford. CPA funds can and will be used, with the appropriate applications being approved, for restoration and any disabilities needs as per state law. If I had my drothers I would also add an addition for meeting space and for storage. However, if funds are not available in these hard times I would see storage off site. My understanding is that Westford will not have to go for a debt exclusion or override to do the total renovation and addition. With this in mind I would support this avenue, once and for all and solve the problem.

Marilyn Frank

Bill Turner  
Westford Conservation/Resource Planner

Westford Conservation Commission  
55 Main St., Westford MA 01886  
Phone: 978-692-5524  
Fax: 978-399-2732



**TOWN OF WESTFORD  
BUILDING DEPARTMENT**

TOWN HALL  
55 Main Street  
WESTFORD, MA 01886  
Telephone (978) 692-5527 Fax (978) 399-2732

*Matthew Hakala, CBO  
Building Commissioner*

Board of Selectmen, Town Manager

November 25, 2008

Re: Town Hall plan

Board Members,

At the joint boards meeting last month, I sat and listened to the discussion about what should be done with Town Hall. If the plan is to reduce the size and put just certain departments back into the renovated structure, may I suggest the following;

The Town Hall does not fit (in its current size) the need for the Town. If you wish to renovate the Town Hall with CPC money and attach an elevator and stairs to the structure I would like to recommend that the town take a long term position as to the needs of the different departments. The current plan was to put the existing departments back into Town Hall, but what about the IT Department, and the Recreation Department? Also the School Department is working in a portable classroom setting which is not permanent by any means. The longer that these departments work in their current settings the more maintenance will be needed on each of the buildings they occupy. I would rather see a purchase of one building that could house all of the departments. A building that is more modern than the old fire station or the poor farm building, and that could possibly house a senior center too.

I would like to suggest that in the interest of saving money (in the long run) both in time and energy conservation, that you take a position that addresses all of the needs of the different departments both now and for the future of Westford. A building is currently available at 6 Lyberty Way. 35,000sq. ft. on 2 floors with an elevator and most of the interior of the building was renovated within the last 3 years. The price works out to \$70.00 per sq. ft. almost ½ of what other buildings are selling for. It currently is occupied by Puma and will be vacant soon (since 10 Lyberty Way is now complete). Please, look seriously at this suggestion as I do believe that it could solve the space needs for the town now and for the foreseeable future.

As a department head I would also like to state that if the Town Hall was large enough to put all of the departments together, it would still make more sense fiscally to purchase a building. I for one would rather save tax dollars then spend them but if they need to be spent, then the town should get the biggest bang for their tax dollar and purchasing an existing building does just that.

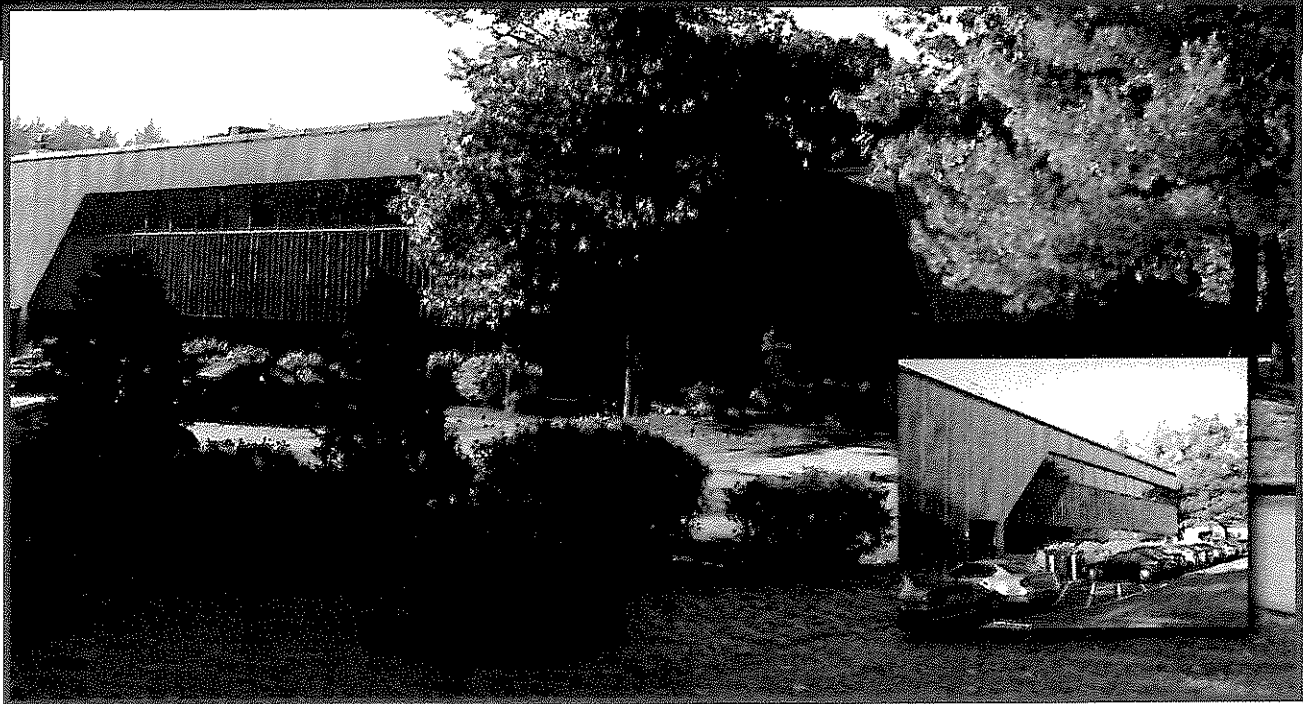
Respectfully,

Matthew Hakala  
Building Commissioner

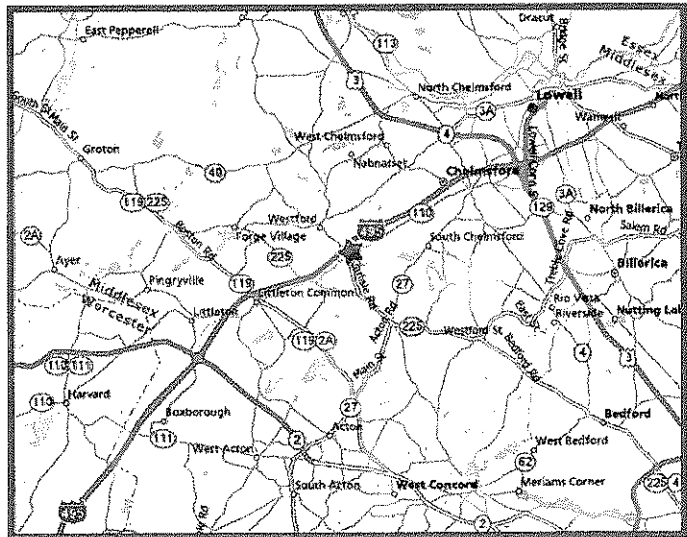
See attachment.

# 6 Lyberty Way

Westford, MA



Strategically located approximately 1/2 mile to **Route 495** at Exit 32, **6 Lyberty Way**, Westford, MA is a meticulously maintained 35,000 +/- SF, two story, office/ R&D building available for sale. Featuring ribbon glass lines, first class office space, conference rooms, abundant power, and loading, the building can accommodate a wide variety of uses from manufacturing, research and development, office, and warehousing.



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# 6 Lyberty Way

Westford, MA

## GENERAL SPECIFICATIONS

**BUILDING SIZE:** 35,000 +/- SF  
(17,500 +/- SF per floor)

**OFFICE SPACE:** 25,500 +/- SF

**MANUFACTURING:** 10,000 +/- SF

**LOT SIZE:** 7.12 Acres

**LOADING:** Two (2) Tailboard Docks  
One (1) Drive-In

**CEILING HEIGHT:** Drop Ceiling: 9'  
Joist: 13.5'

**AGE:** 1984

**CONSTRUCTION:** Steel/Masonry and  
Aluminum Siding

**ROOF:** 1996,  
Firestone Double Membrane

**COLUMN SPACING:** 28' x 25'

**AIR CONDITIONING:** Throughout, Eight (8)  
10-Ton Roof Mounted Units

**SEWER/ WATER:** Private Septic, Town Water

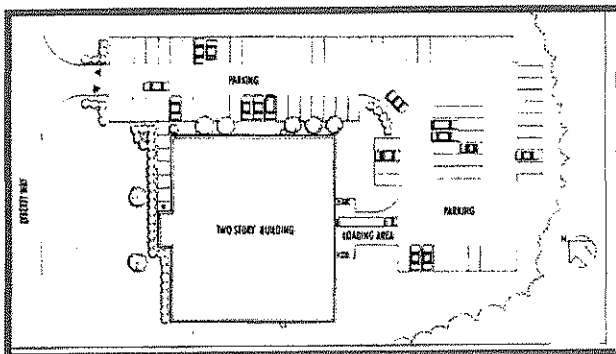
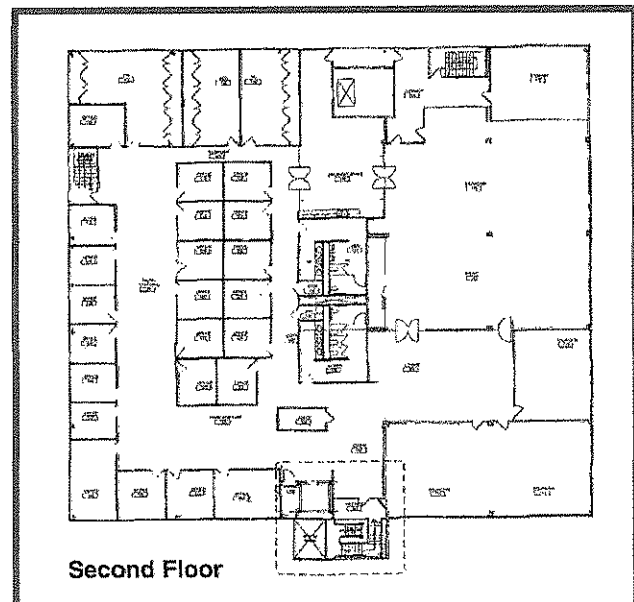
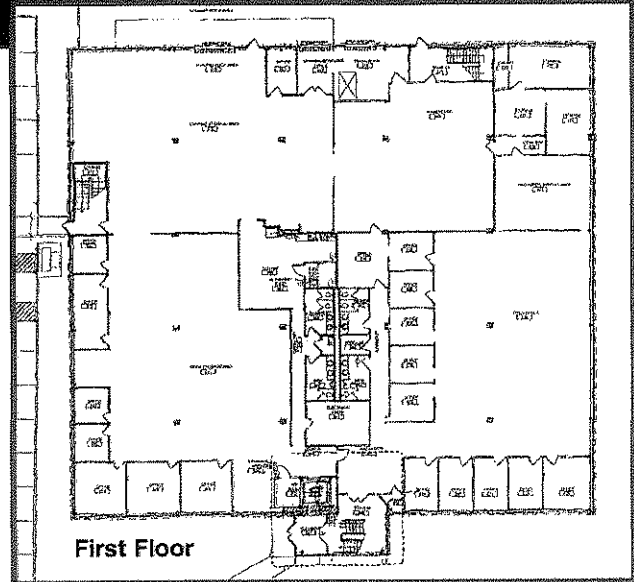
**POWER:** 1200 amp, 3 phase

**SPRINKLER:** Wet

**ELEVATORS:** One (1) Passenger  
One (1) Freight

**PARKING:** 90+

**SALE PRICE:** \$2,450,000



Every effort has been made to furnish the most accurate information available on this property. However all statements and conditions contained herein are subject to errors, omissions, prior sale or removal from the market.

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From: **Tina Landry**   
Jodi Ross  
Paul Murray

To...

Cc...

Subject: Fwd(3): 2 CENTS ON 515 GROTON RD FOR 11/6/2008

Attach...

----- Original Message -----

Jodi:

Can not attend tonight, previous commitments.  
Here is my 2 cents worth:

**Commercial Property 515 Groton Rd.**

**Property exists**

- No new construction at prevailing wages
- Building has been functional for a period of time , no faults to be dealt with
- Consolidation of both Town departments and School departments
- Centralization of Payroll, Purchasing, Accounting
- One set of utility bills
- Creates efficient Town government

**Purchase building:**

- Issue bond for the purchase
- Using discipline direct all existing lease income to the pay down of the bond
- Explore income from cell tower installation
- Using discipline direct all cell tower income to the pay down of the bond
- The largest neighbor in the area is Fletchers Quarry; rocks do not complain

Master plan is just that, a plan and should not be cast in concrete.  
A plan is a direction that has to be open to changes as the scenarios arise.

In the decision process, complete a solid study of the value of the property for Town Government use and just not sweep it under the table because it does not fit the agenda of a few.  
Have the Finance Director work up a set of numbers to be used in comparing the other options.

Thanks

Paul (Westford taxpayer for 45 years)

Paul F. Murray, Veterans Service Officer  
Town of Westford  
23 Depot St.  
Westford, MA 01886



## TOWN OF WESTFORD BOARD OF HEALTH

TOWN HALL  
55 Main Street  
WESTFORD, MA 01886  
(978) 692-5509 FAX (978) 399-2558

Dear Board of Selectmen,

Thank you for inviting our comments and ideas into the planning for the Town Hall renovation/expansion project. After viewing the presentation by the Permanent Building Committee and their architect and reviewing the preliminary plans, we have the following comments and suggestions:

On the space needs assessment that was available at the meeting (yellow sheet), it showed that Board of Health staff was determined to need 800 square feet of office space. The last study done by town consultants, who assessed space needs, cited the BOH as needing 1280 sq. feet with the clinic area and files. The architect did mention in her presentation that she had omitted the space needed for clinics and private offices and that would be taken out of the "expansion" portion of the project. It is our opinion that the expansion portion of the project should be just that, space that will be needed in the future for expansion, not space needs that are currently needed. At the presentation, the architect showed a list of towns and their Town Hall sizes. Even after the expansion project, our new Town Hall will fall on the "small" side of this list. We are concerned that after spending millions of dollars, we may be in a similar situation in the not too distant future, where the new Town Hall will not comfortably house the necessary town government offices. We agree wholeheartedly with the architect and Town Manager that all Town Hall employees should be located under one roof so as to ensure efficiency of service. While we hope that the Town Manager is correct in her assessment that as the Town continues to grow in population, the number of town employees will not grow with it, we find it historically inaccurate. While I have served on the Board of Health for the past 10 years, I have watched the town's population grow by approximately 1,400 residents. In that time, Westford has added staff in the departments of Police Dept., Fire Dept., Highway Dept., Town Manager, Permitting Office, Assessors Dept., GIS Dept., IT Dept., Planning Dept., Human Resources Dept., Engineering Dept., Finance Dept., and the Board of Health. I find it hard to believe that as Westford continues to grow in population, to a possible buildout of 4 to 6 thousand more residents, that we will be able to maintain levels of service with existing numbers of staff. Therefore we would ask that the current needs of Town Hall be incorporated into the plan, with an appropriate "expansion" area in addition.

We are also concerned with what appears to be a lack of parking spaces on the plan for the new Town Hall. The existing parking lot was already often overcrowded. And that was when Town Hall had no large meeting space. Under the new plans that include a large meeting space, we are concerned that many people will not be able to park to enter the building. May we also suggest that plans for the new Town Hall include provisions for bicycle parking/storage to encourage residents and staff alike to ride to Town Hall whenever possible instead of driving.

In closing we would request that prior to final plans being drafted, that the architect sit down with each department head to address their individual needs and assure this new building will provide the space and efficiency needed for our town government

Sincerely,

Zac Cataldo  
Chairman  
Westford Board of Health



From: Tina Landry  
Jodi Ross  
Robert Price <bobprice@westford.com>



To...

Cc...

Subject: Fwd(2): Re: Town Hall: request for written board/committee comments

Attach...

----- Original Message -----

Message Tue, Nov 25, 2008 3:20 PM  
From: Robert Price <bobprice@westford.com>  
To: Jodi Ross  
Cc: nkhumalo@westfordma.gov erainville@westfordma.gov Marianne Fleckner  
<mcffleckner@aol.com> Buffie Diercks <diercks@verizon.net>  
inolen@westfordma.gov Jack Wrobel <jack\_wrobel@raytheon.com> "Hajo W. Koester"  
<hw.koester@verizon.net> Susan Flint <sflint@alseres.com>  
Subject: Re: Town Hall: request for written board/committee comments

Dear Jodi,

The JV Fletcher Library Board of Trustees was planning to discuss and approve an official list of concerns with the Town Hall restoration/expansion project at its December 1 meeting. This is not soon enough to meet the Selectmen's announced deadline for submission, however, so please consider this an unofficial list of concerns, concerns that were raised at our November 17 meeting and recorded in our minutes.

I have taken the liberty to include as well a concern about the Cameron Senior Center expansion project that was also raised at our meeting.

Town Hall:

1/ Parking space. On certain occasions such as the Farmers' Markets on the Common, concerts at the Parish Center for the Arts, dances at the Parish Hall, and book sales at the Library, parking areas on Lincoln Street and Connell Drive and behind the Town Hall and the Library become full, leaving few options for additional cars. The construction of a Selectman's Meeting Room at the Town Hall seems to imply the need for larger parking facilities behind the Town Hall. Such an expansion would help alleviate the general parking problem in the Town Center.

1A/ If the Town agrees to expand the Town Hall parking area, would this provide an opportunity to expand the Library parking lot, to pave over the leaching field of the abandoned septic system? Bumping out the back corner of the Library lot would create eight to ten additional parking spaces. If the two paving jobs were combined, the

total cost would be lower.

2/ Abbot Treatment Plant. As you know, the Library has been talking about expanding the Library for some years. In fact, when the Town Center sewage treatment system was sized, the Library included in its contribution an estimate based on the size of the proposed expansion. Naturally, the Trustees were very concerned when we learned that the leaching field at Abbot already operating at capacity. What is the situation with this field? Is it, in fact, at capacity? Will it support a capacity crowd in the proposed Selectman's Meeting Room at Town Hall?

2A/ Will this leaching field support the requirements of the proposed Library expansion as originally specified?

Cameron Senior Center:

3/ As you are undoubtedly aware, the Library bookmobile stops at the Cameron Senior Center to serve the needs of the seniors who gather there. Parking near the door is desirable for both the patrons who have to walk out to the bookmobile and the librarian/driver who has to carry a loaded book bin in and out of the building. Have the parking needs of the bookmobile been considered in laying out the traffic flow around the proposed building? The height of the bookmobile may also be an issue if there is a portico near the door.

Thanks for your consideration.

Bob Price  
Library Trustee Chair



## TOWN OF WESTFORD

*Records and Archives Management Committee*

November 25, 2008

Dear Selectmen:

The Records & Archives Management Committee would like to take this opportunity to respond to suggestions regarding locations for Westford's future Archives Center. Preservation of documents is the result of careful consideration of environment, security and safety from combustible sources. In addition, proximity to staffing must be considered for both short and long term storage as a matter of efficiency.

As we state in our letter to you this past January, Mass General Laws Ch. 66, Sections 11 & 12 (see attachments), both enacted in 1897 direct the Selectmen to "provide and maintain fireproof rooms, safes, or vaults for the safe keeping of the public records of their . . . town," and add that "All such records shall be kept in the rooms where they are ordinarily used, and so arranged that they may be conveniently examined and referred to. . . ." Clearly we are not doing this now, but this should certainly be our goal moving forward.

Several suggestions were mentioned at the November 6<sup>th</sup> joint boards meeting that we will address below.

1. Town Hall addition – the optimal solution
  - a. Close proximity = maximum staff efficiencies and public convenience
  - b. Not below grade
  - c. Built to meet all staffing, environmental structural, and security requirements
2. Library
  - a. Close proximity
  - b. No available space at present
  - c. Will be considered with future expansion project (not on 5-year plan)
3. Abbot School classroom(s) to the right of the gymnasium
  - a. Fairly close proximity but some staff inefficiency and no onsite staffing
  - b. Classroom space is currently not available

- c. Potential classrooms are directly above boiler room; will not meet environmental, structural and security requirements without significant expenditures
  - d. Introduces non-school personnel into school building
4. Senior Center Basement (proposed addition)
- a. Lack of onsite staffing
  - b. Staff inefficiency due to distance
  - c. Public convenience is limited by staff availability to retrieve records
  - d. Below grade construction of a vault is not recommended by State Archives: "Construction of vaults below grade level should be avoided whenever possible because of the dangers posed by the 'cooking' effect of fallen debris, flooding from natural causes or fire-fighting efforts, and the difficulties of maintaining proper environmental control."
  - e. Not coupled to Town Hall renovation project

We, the members of the Records and Archives Management Committee, are taking full advantage of the records being stored at 515 Groton Rd. We now have the opportunity to organize our files and eliminate duplicates to make more efficient use of the space. While a vast improvement from the conditions in the basement of Town Hall, we must recognize that this is only a temporary solution. A permanent storage location for our archives must acknowledge the value of our permanent collection, our historical memory of what Westford is in 2008, how we got here, and where we are going, and we must provide ready access to these records.

We look forward to assisting you with finding the best location for an archives center. It may be possible to secure grant funding for the construction of an archives center that will preserve our historic treasures. Preservation doesn't just happen; it is the result of concerted effort and difficult decisions that will have the greatest benefit over the longest time possible.

Sincerely,

Records & Archives Management Committee  
Virginia Moore, Chair; Jane Hinckley; Sandy Martinez; Robert Oliphant and  
Kaari Mai Tari

*Committee member Ellen Harde has recused herself from involvement in the archives center discussion as she will be moderating discussion of it at Town Meeting.*

Legal references:

### **Chapter 66: Section 11. Fireproof vaults and safes**

Section 11. Officers in charge of a state department, county commissioners, city councils and selectmen shall, at the expense of the commonwealth, county, city or town, respectively, provide and maintain fireproof rooms, safes or vaults for the safe keeping of the public records of their department, county, city or town, other than the records in the custody of teachers of the public schools, and shall furnish such rooms with fittings of non-combustible materials only.

### **Chapter 66: Section 12. Arrangement of records**

Section 12. All such records shall be kept in the rooms where they are ordinarily used, and so arranged that they may be conveniently examined and referred to. When not in use, they shall be kept in the fireproof rooms, vaults or safes provided for them.

## **Technical Bulletin 1**

### **Performance Standards of Safes and Vaults**

Issued by the Supervisor of Public Records

May 18, 1995

Version 2 (1996)

#### **AUTHORITY**

Chapter 66, s.11 MGL requires the officers in charge of state departments, county commissioners, city councils or selectmen to provide fire-resistant rooms, safes or vaults for the safekeeping of the public records of their governmental unit (2 Op. Atty. Gen. 1899, p. 48). Pursuant to s. 1 of this statute, the Supervisor of Public Records is authorized to promulgate standards for the construction and use of these vaults, rooms and safes (8 Op. Atty. Gen. 1929, p. 594).

#### **EFFECTIVE DATE**

These performance standards become effective on May 18, 1995.

#### **GENERAL**

All vaults for the storage of public records shall provide the minimum level of protection specified hereunder. The Supervisor of Public Records does not

specify any particular materials or technique for the construction of public records vaults. The Supervisor will approve vaults for the storage of public records upon receipt of the certification of licensed or registered fire protection and structural engineers that the proposed construction will have a fire resistance and structural integrity equivalent to or greater than that specified in the following performance criteria.

## SIZE

A vault size of 5,000 cubic feet or less is considered optimal. Where large volumes of records must be protected, it is permissible to construct a vault with a capacity of up to 25,000 cubic feet. It must be realized that, because of the volume of combustible materials stored within it, this larger structure is at greater risk of fire and should be equipped with a fire suppression system.

## MEDIA PROTECTION

All vaults intended for the storage of paper records shall be so constructed that, when fitted with the 6-hour required hereunder shall, in the event of fire in the surrounding structure, maintain an internal temperature of 350 or below for a period of not less than 6 hours. These standards provide the maximum available level of fire protection for paper records, but cannot safeguard film or magnetic media against either heat or humidity. If magnetic media have not been copied and dispersed or otherwise duplicated for protection, vaults or portions thereof used for the storage of this media must be equipped with data safes or an inner core designed to minimize temperature rise and moisture intrusion. These safes and cores shall be so constructed or equipped that, in the event of fire in the surrounding structure, the internal temperature and relative humidity shall remain below 125 and 80%, respectively for a period of at least 2 hours. It is the responsibility of the records custodian to provide all media with the level of protection specified above and to provide the Supervisor with the engineer's certification to that effect.

## CONSTRUCTION

Except in Type I or Type II-222 fire resistive construction as defined by NFPA 220, Standard on Types of Building Construction, all vaults shall be ground-supported and structurally independent of surrounding structures. Supporting structures for vaults shall be sufficient to support the full weight of the vault structure and its contents.

Since shrinkage or volume change, stresses may result in hairline cracking that will be detrimental to the vault structure, all concrete members should have a minimum reinforcing as specified in the ACI Code, and all masonry walls should have minimum reinforcing as specified in Paragraph 1113.5.3 of the Commonwealth of Massachusetts State Building Code.

All building members supporting the vault shall be noncombustible. All structure materials used in the construction of a vault shall have a fire resistance rating of 6 hours. All interior fittings and finish shall be noncombustible.

If connected to the building in any manner, the connection shall be made so that in the event of the collapse of the building, the surrounding building members may move or fall without affecting the fire-resistive qualities of the vault. All beams or bearing members adjoining the vault shall be designed to release freely in case of failure. Vault construction shall not be used as a support or bearing for the structural members of the building. Walls shall have sufficient lateral strength to withstand impact of collapsing building members, or toppling machinery or equipment.

Construction of vaults below grade level should be avoided whenever possible because of the dangers posed by the "cooking" effect of fallen debris, flooding from natural causes or fire-fighting efforts, and the difficulties of maintaining proper environmental control.

In non-fire resistive buildings, the vault roof shall be designed to accommodate a minimum live load of 350 pounds per square foot. In all cases, ample accommodation should be made for protection against impact loading by falling equipment or building members and against accumulations of burning debris.

#### WATERTIGHTNESS

Walls, roofs and floors shall be effectively waterproofed. No combustible membrane or coating shall be used except on a roof exposed to the weather.

Provisions shall be made to prevent the entry of water at door openings.

Ample drainage shall be provided to prevent rain or fire fighting water accumulating on the roof.

#### PENETRATION

Wall penetrations shall be allowed only for access, HVAC systems, sprinkler systems, electric lighting and limited energy circuits. Wall openings shall be as small as possible and shall be sealed with approved or listed fire-rated materials and devices to prevent smoke, heat, flame or water penetration. Conduit, if used, shall be sealed inside and outside.

Roofs shall not be pierced for any purpose.

Floors shall not be pierced, except that floors of vaults constructed on grade may be pierced to allow the passage of sprinkler piping or HVAC ducts.

#### VAULT DOORS

All vault doors shall be Underwriters' Laboratories Class 350 rated 6 hours or equivalent. ORDINARY FIRE DOORS SUCH AS HOLLOW METAL, TINCLAD, SHEET METAL, OR METALCLAD TYPES; STEEL PLATE TYPE AND FILE ROOM DOORS ARE NOT ACCEPTABLE AS VAULT DOORS.

Vault doors shall be equipped with combination-type locks with an Underwriters' Laboratories approved relocking device designed to hold the door in case of mechanical, explosive or torch attack on the door. The lock mechanism shall be of the type enabling a person locked inside the vault to open the door easily from the inside. All day gates shall be similarly equipped.

Vault doors shall be equipped with smoke or heat-actuated release mechanisms to close them in case of fire.

#### ENVIRONMENTAL CONTROL

For paper and magnetic media, a stable environment with an average temperature of 70F or below and an average relative humidity of 30-50% shall be maintained. A temperature below 70F and a relative humidity of 40-45%, with fluctuations limited to no more than +2 F and +3% RH, is considered optimal. Storage facilities for first-generation silver halide microfilm shall maintain a constant temperature of below 70F and relative humidity of between 20 and 30%. If it is not possible to meet these optima, minimization of temperature and humidity fluctuations shall be the guiding concern. These parameters should be accomplished by controlling the external environment surrounding the storage space. Where this is not feasible, the storage space may be equipped with a heating/ventilation/air conditioning system. All equipment related to such a system shall be located outside the storage space.

#### FIRE DETECTION SYSTEMS

Automatic fire detection systems shall be installed in accordance with NFPA 71, Signaling Systems for Central Station Service; NFPA 72, Protective Signaling Systems; and NFPA 72E, Automatic Fire Detectors. The systems shall be relied on only when there is an assurance that the alarms will bring prompt response at all times.

#### FIRE SUPPRESSION SYSTEMS

Vaults may be equipped with automatic sprinkler protection installed in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

Class A fire extinguishers or a standpipe systems with a small hose, suitable for use by the occupants of the building, shall be provided in a convenient location outside the vault door.

#### WIRING AND LIGHTING



All wiring shall be in conformance with NFPA 70, National Electrical Code. Fixed lighting only shall be provided in the vault. Lighting shall be limited to explosion proof or vapor proof lamps and controlled only from a 2-pole switch located outside the vault.

#### SHELVING

All shelving shall be of noncombustible construction and as fully enclosed as possible. All shelving shall be a minimum of 3 inches above the floor of the vault. Electrically powered mobile shelving shall not be installed.

Records and containers shall be separated by at least 6 inches from any piping or conduits within the vault. Where sprinklers have been installed, a clearance of 18 inches shall be maintained below sprinkler heads.

#### SAFES AND RECORD CONTAINERS

Safes and insulated record containers to be used for the storage of paper records shall provide protection equivalent to that of Underwriters' Laboratory Class 350, rated for 4 hours. Equipment for storage of magnetic and photographic media shall be Class 150 rated 2 hours. Combinations of equipment or the use of inserts or liners to achieve equivalent levels of protection are permitted. Ratings by recognized testing laboratories other than Underwriters' Laboratories shall be recognized.

#### CERTIFICATION TO SUPERVISOR OF PUBLIC RECORDS

Prior to storage of public records in a newly constructed or renovated vault, the contracting agency shall provide the Supervisor of Public Records with signed and sealed certifications from all relevant engineers that the foregoing standards have been met or exceeded. No vaults which are not so certified may be used for the storage of public records.

#### FOR MORE INFORMATION

For more information, please contact the Records Management Unit. The Records Management Unit is available to help government officials and their staffs with records management. Analysts can assist you with: Technical Assistance, including:

- \* Development of records management programs
- \* Records inventory \* Analysis of record-keeping systems
- \* Appraisal and scheduling of records
- \* Implementation of schedules

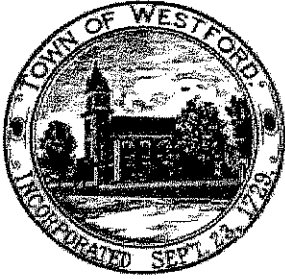
Training Sessions and Presentations. Analysts will plan an agenda tailored to the records management needs of your agency or department. Analysts frequently speak at meetings of professional associations. Sample topics include:

- \* Records Retention and Disposition

- \* Safety and Security of Records
- \* Records Lifecycle
- \* Care and Handling of Records
- \* Public Records Issues

Publications. The Records Management Unit publishes technical bulletins, project reports, the Records Management Manual and the newsletter, FYI. To obtain copies of our publications, visit our Web site or contact us at:

Massachusetts State Archives  
Records Management Unit  
220 Morrissey Blvd.  
Boston, MA 02125  
617-727-2816 Phone  
617-288-8429 Fax  
[www.sec.state.ma.us/arc/arcrmu](http://www.sec.state.ma.us/arc/arcrmu)  
[recman@sec.state.ma.us](mailto:recman@sec.state.ma.us)



Planning Department  
55 Main Street  
Westford, Massachusetts 01886  
TEL (978) 692-5524 FAX (978) 399-2732

To: Board of Selectmen  
From: Planning Board  
Date: November 25, 2008  
Re: Westford Town Hall proposed renovations and additions

---

At the request of the Board of Selectmen the Planning Board, at their Monday, November 17, 2008 meeting, reviewed and provided the following comments on the Westford Town Hall proposed renovations and additions (to include but not limited to additional meeting space and room for records archive and storage).

#### **Location**

Based on the Comprehensive Master Plan survey, completed in Feb. 2007, a strong majority of respondents indicated that the town should keep Town Hall should be kept in the town center. The Planning Board supports keeping the location in the center.

- Consolidation of all Town Hall offices in one building will be more efficient.

#### **Project Scope and Site**

- The Town should follow the plans proposed by the architect. The proposed plan will allow the town to gain on efficiencies overtime while realizing the full value of its investment.
- If the meeting room is eliminated from the plan, the architect should investigate accommodating records storage and archive in the rear addition. Further, the architect should investigate locating records storage and archives in the basement.
- The location of the additions proposed by the architect seems the best choice.

#### **Building Appearance**

- The Planning Board supports preservation of Town Hall. Retaining the historical features and interior aesthetics is as important as maintaining the exterior historical features.
- No significant issues with expanding the existing building in the rear.

- Police Station courtyard was an important feature when reviewing and approving the Police Station site plan.
- The massing of any addition on the existing Town Hall structure needs to be evaluated relative to its impact on the historical nature of the existing building.

### **Records Storage**

- While the town could house the record storage, vault, and some meeting rooms elsewhere, it would make better sense to have them near town staff. Inefficient working conditions results in waste.
- Records storage should be for “current records” (i.e. within last 10 years) while old/ancient records being stored off-site. This would reduce the size of the vault.

### **Meeting Room**

- A study to evaluate the adequacy of existing meeting space should be conducted.
- Existing parking is minimal. If a meeting room is to be provided / considered a parking plan should also be developed which will indicate amount and location of new parking to support the new meeting room.
- The addition of a large meeting room provides some room for expansion of offices in the future if ever needed.

Westford Historical Commission  
4 Boston Road  
Westford, MA 01886  
November 2008

The following are the concerns of the Westford Historical Commission with the proposed architectural plans for the renovation/expansion of the existing Town Hall Building.

1. The proposed addition does not blend in with the existing building or the Westford Center Historic District.
2. Specifically, we are concerned with the glass bridge connecting the two buildings, and the facade facing Main Street. A suggestion would be to possibly add more windows.
3. The rear entrance must be easily identifiable by patrons.
4. Would it be possible to extend the rear addition further, rather than having a second side addition?
5. Please review meeting area needs
6. Ms. Kang stated that she designed the side addition to deliberately look like a separate building. What changes would she make to make it more compatible with the existing building?
7. We would hope that remaining architectural details, be reused or replicated whenever possible,

The following are the concerns of the Westford Historical Commission with the concept of expanding the existing Town Hall Building.

1. Did the feasibility study explore other options, as well as the other buildings mentioned?
2. Are there departments previously located in Town Hall that could be relocated to another building?
3. Is there enough land to add additional parking for this expansion, as well as any other future expansion?

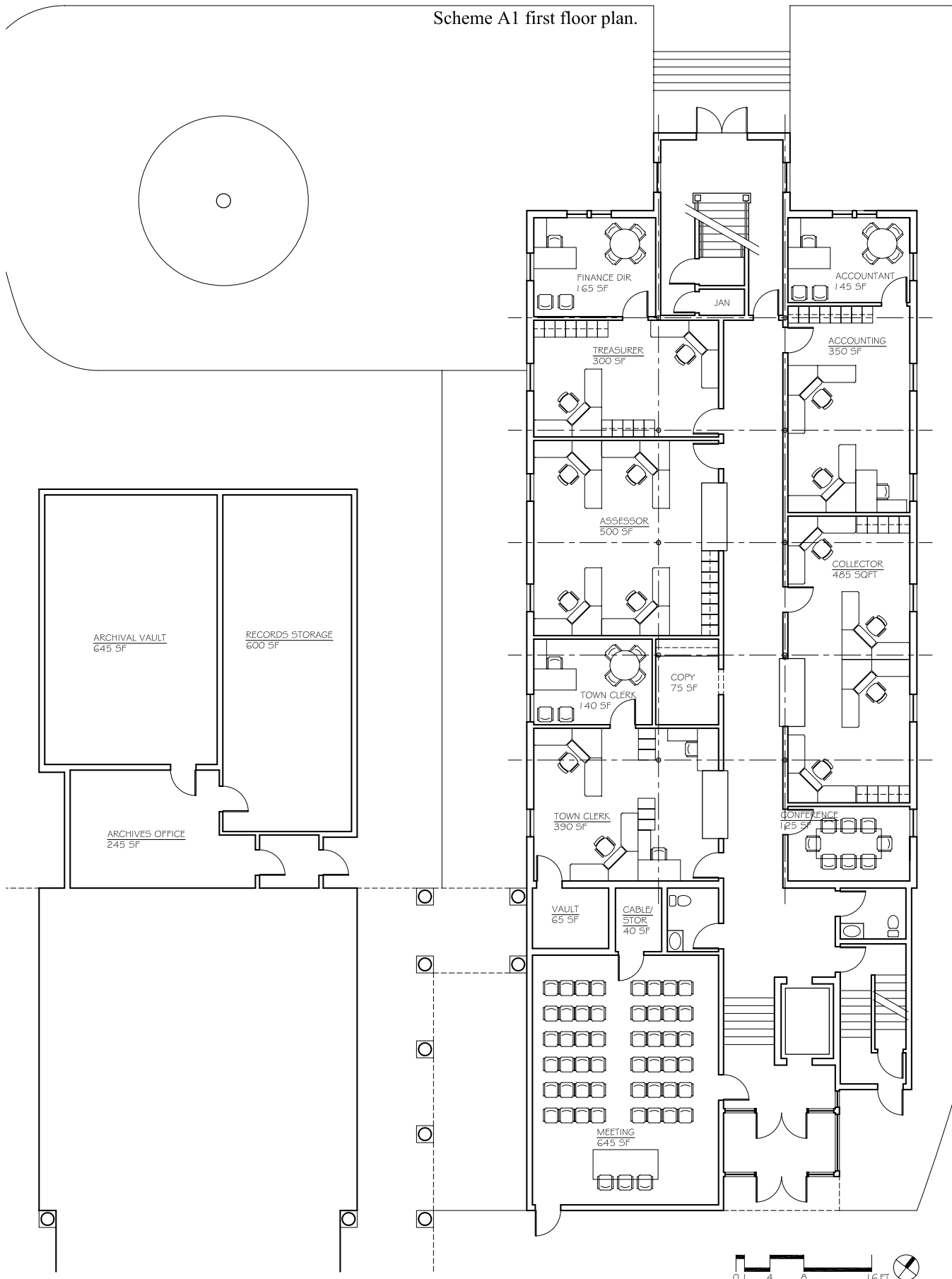
## **APPENDIX G**

Design schemes

## **Scheme A1**

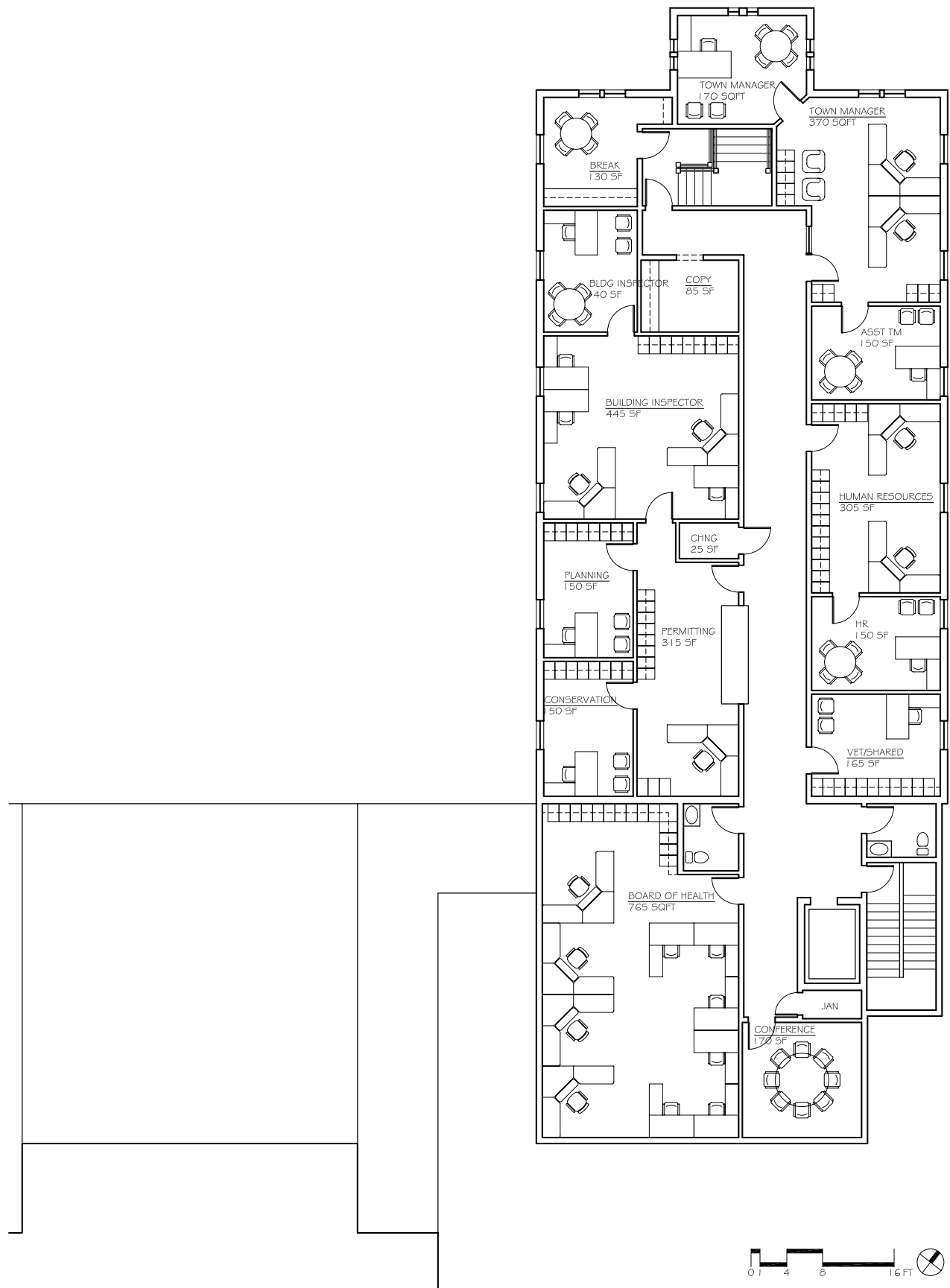
This scheme proposes a two-story addition on the south side of the existing building and a one-story addition in front of the police station. The one-story addition is not connected to the Town Hall and contains the town archive. The new elevator and egress stairway are located in the southerly addition, close to the new handicapped entrance from the parking lot. Program spaces, as originally developed, are just met by these plans.

Scheme A1 first floor plan.





Scheme A1 second floor plan.



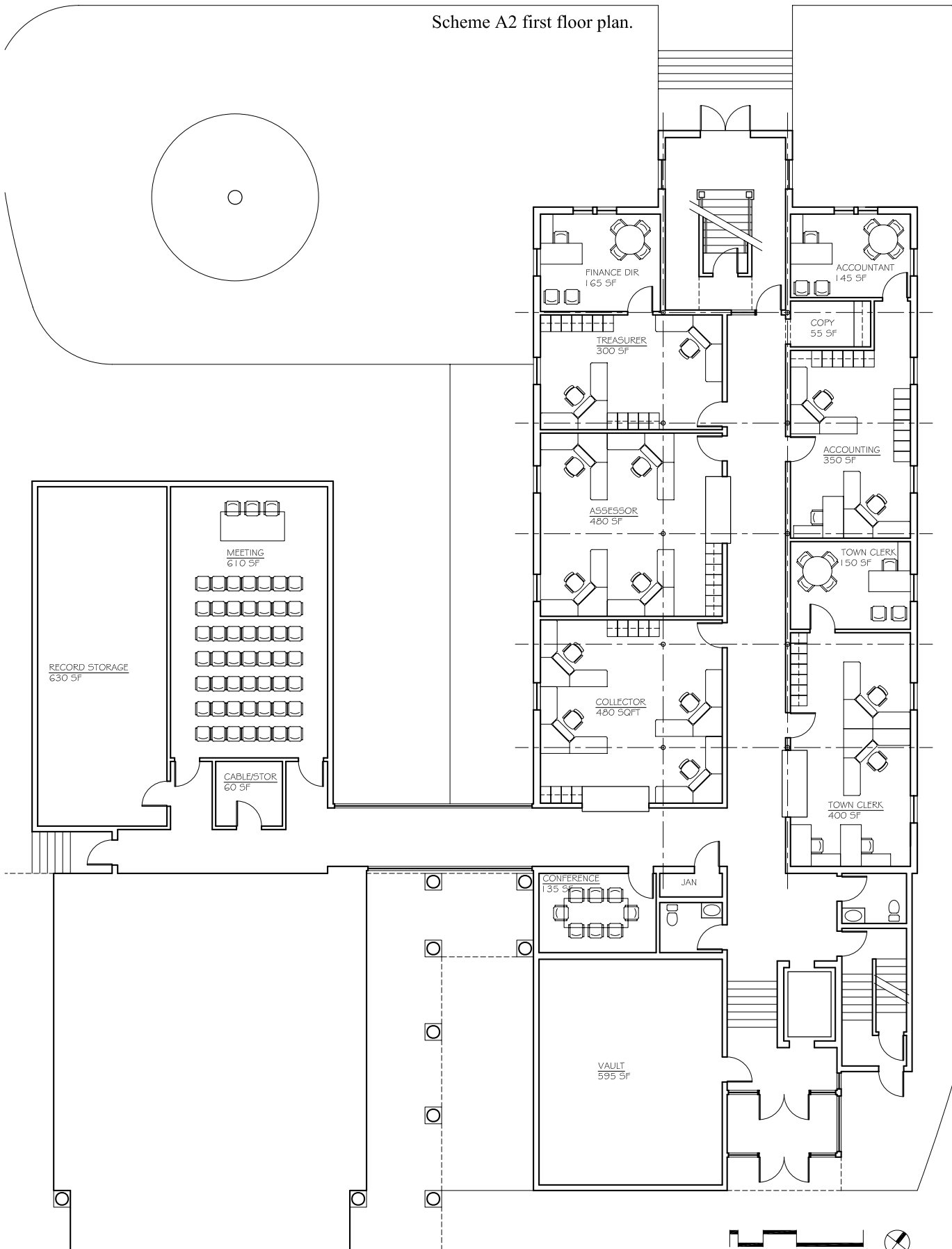
Scheme A1 Main Street elevation.



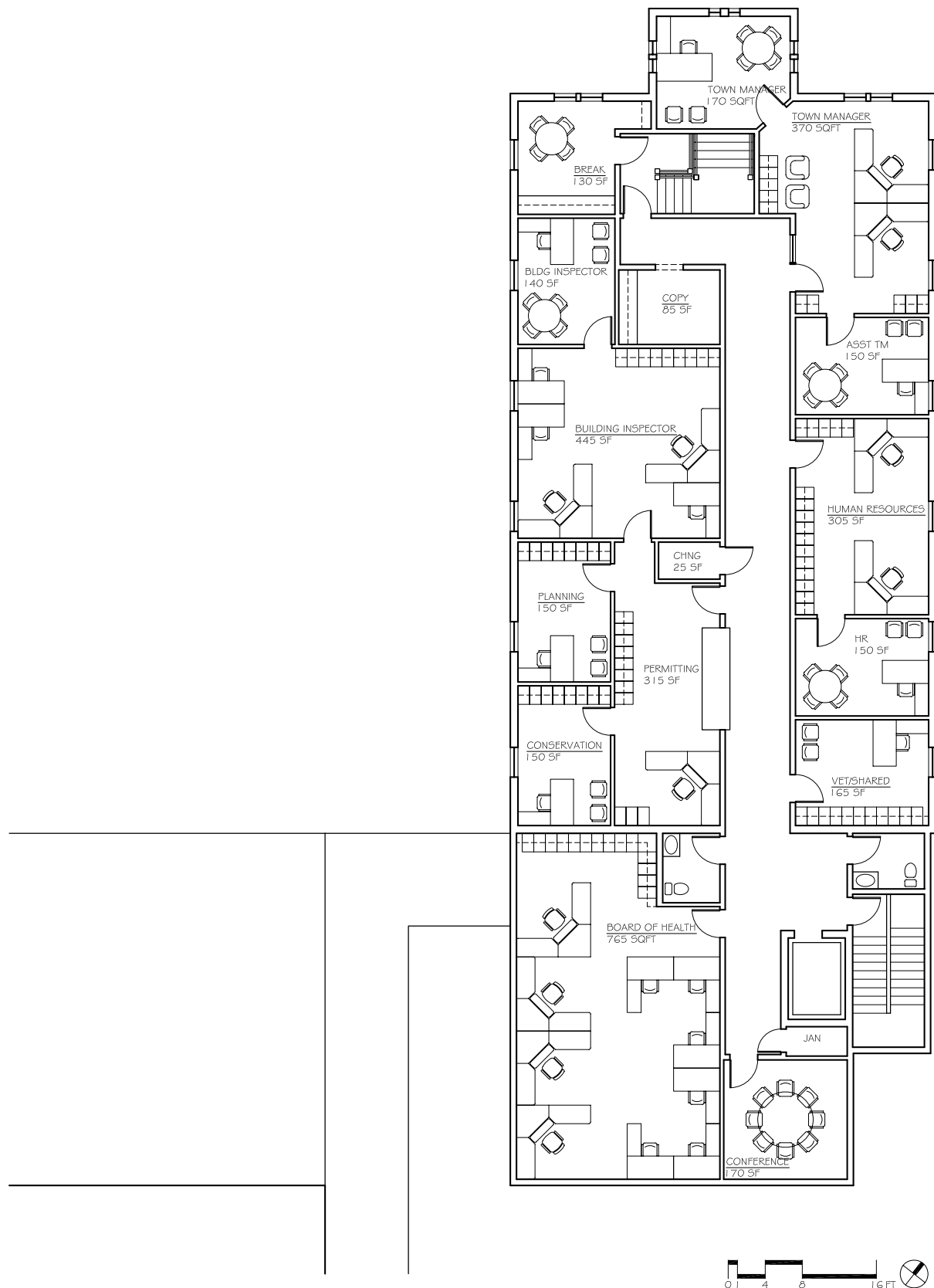
## **Scheme A2**

Like Scheme A1, this scheme proposes a two-story addition on the south side of the existing building and a one-story addition in front of the police station. The one-story addition, however, is connected to the Town Hall. Like Scheme A1, the elevator, new egress stairway, and handicapped entrance are located in the southerly addition, with easy access from the parking lot. Some program spaces, as originally developed, are slightly smaller in these plans.

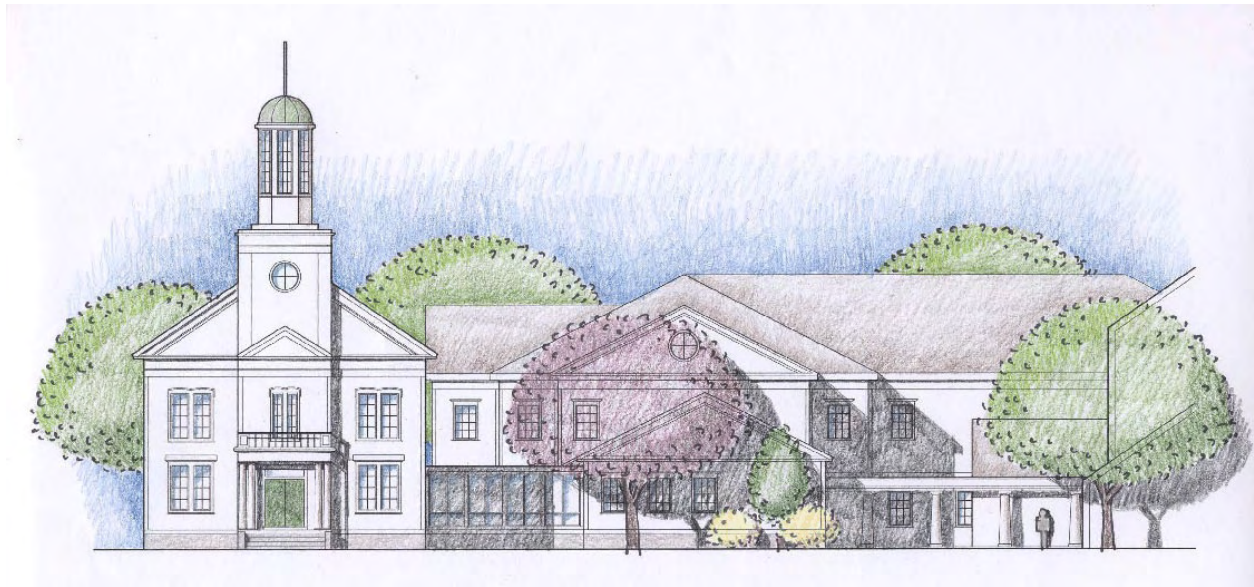
Scheme A2 first floor plan.



Scheme A2 second floor plan.



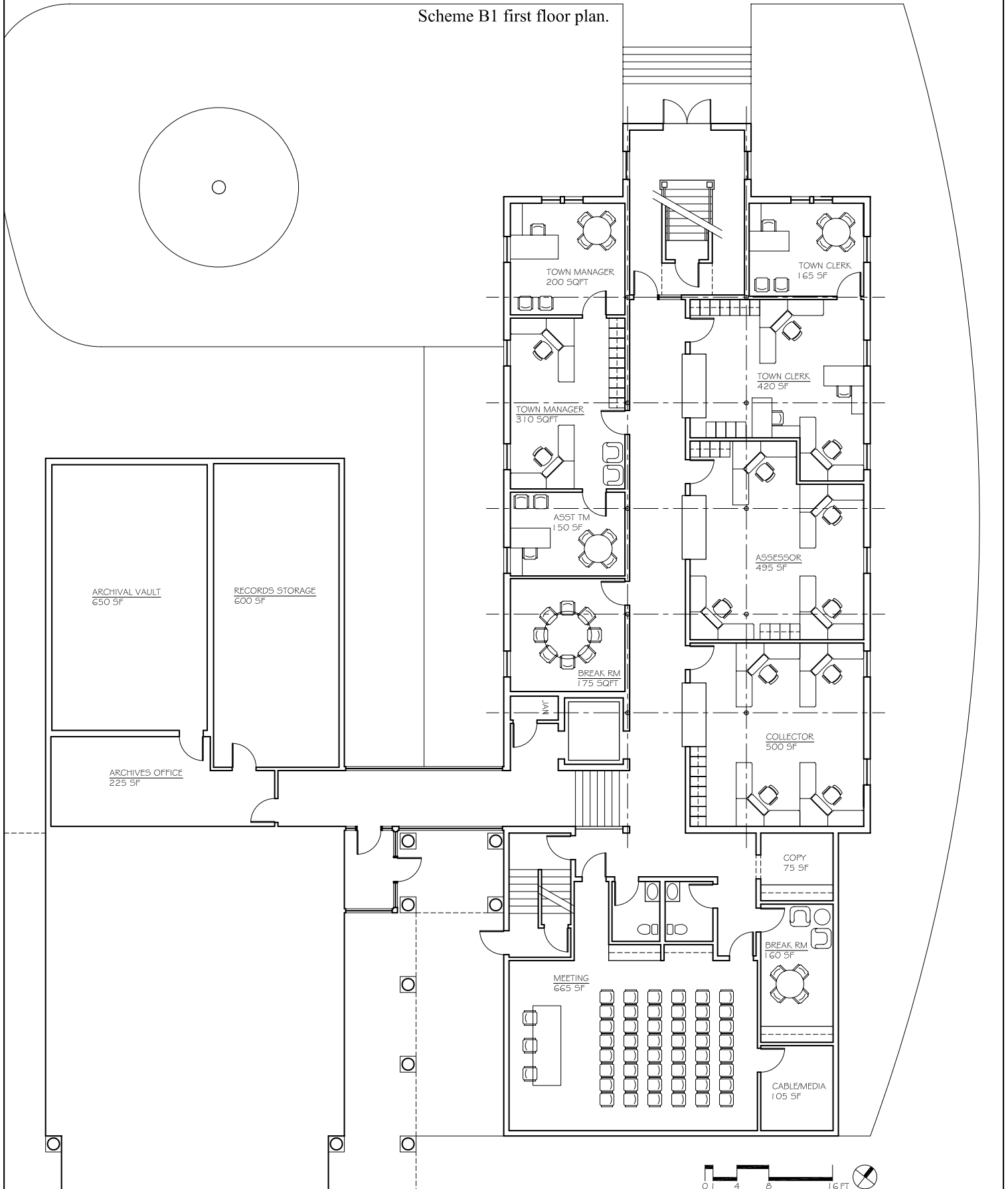
Scheme A2 Main Street elevation.



## **Scheme B1**

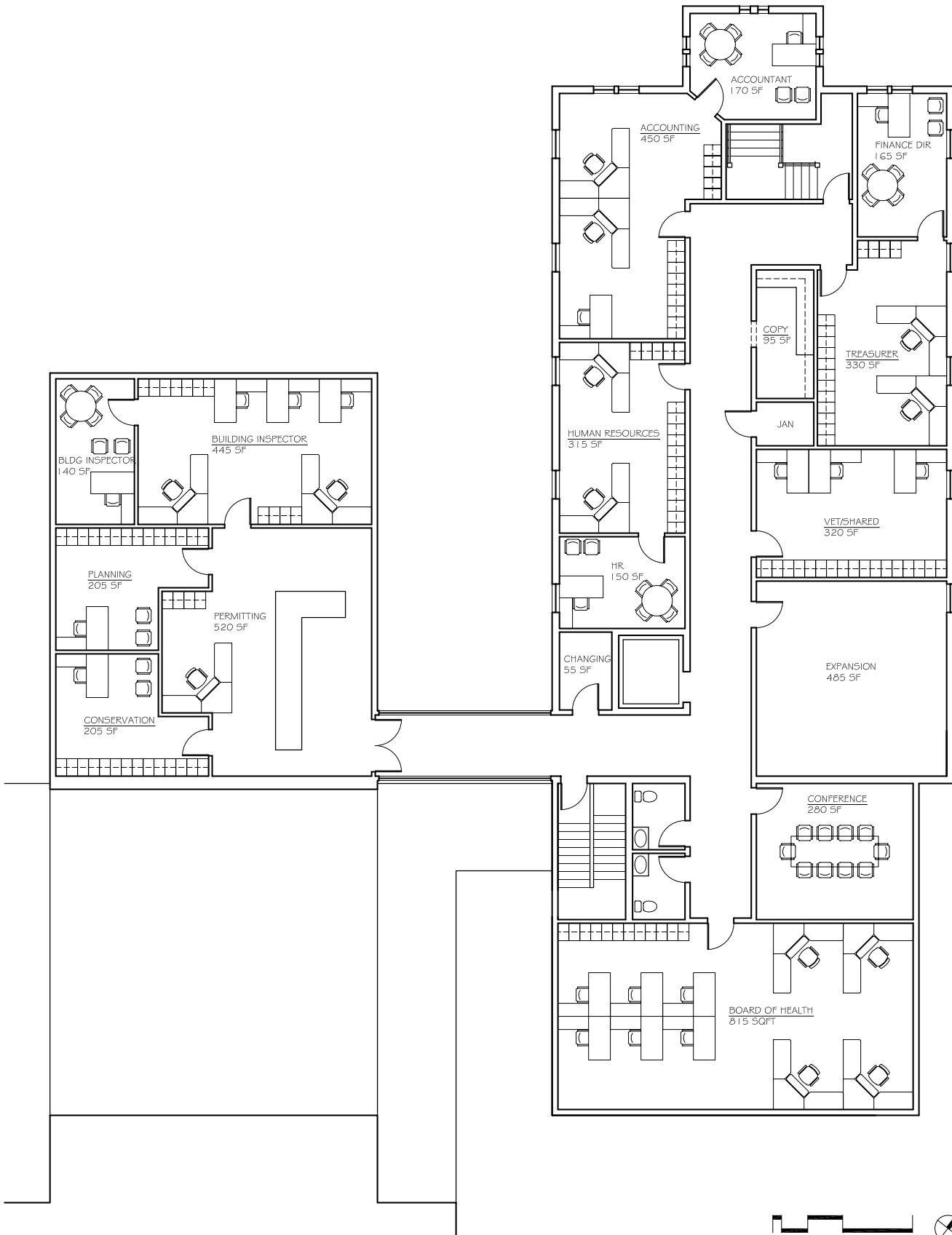
This scheme proposes a two-story addition on the south side of the existing building and another two-story addition in front of the police station, all connected to the existing Town Hall. Because the building code prohibits dead end corridors longer than 20 feet, the egress stairway is located on the southwest side of the existing building to be close to the westerly addition. It follows that the elevator should be near the stairway, offering options for vertical circulation. The handicapped entrance, then, should be in close proximity to the elevator. The result is that the entrance is a less visible from the parking lot. Program spaces, as originally developed, fit easily into these plans, leaving a small expansion space. Note that the Main Street elevation for Schemes B1 and B2 are identical.

Scheme B1 first floor plan.





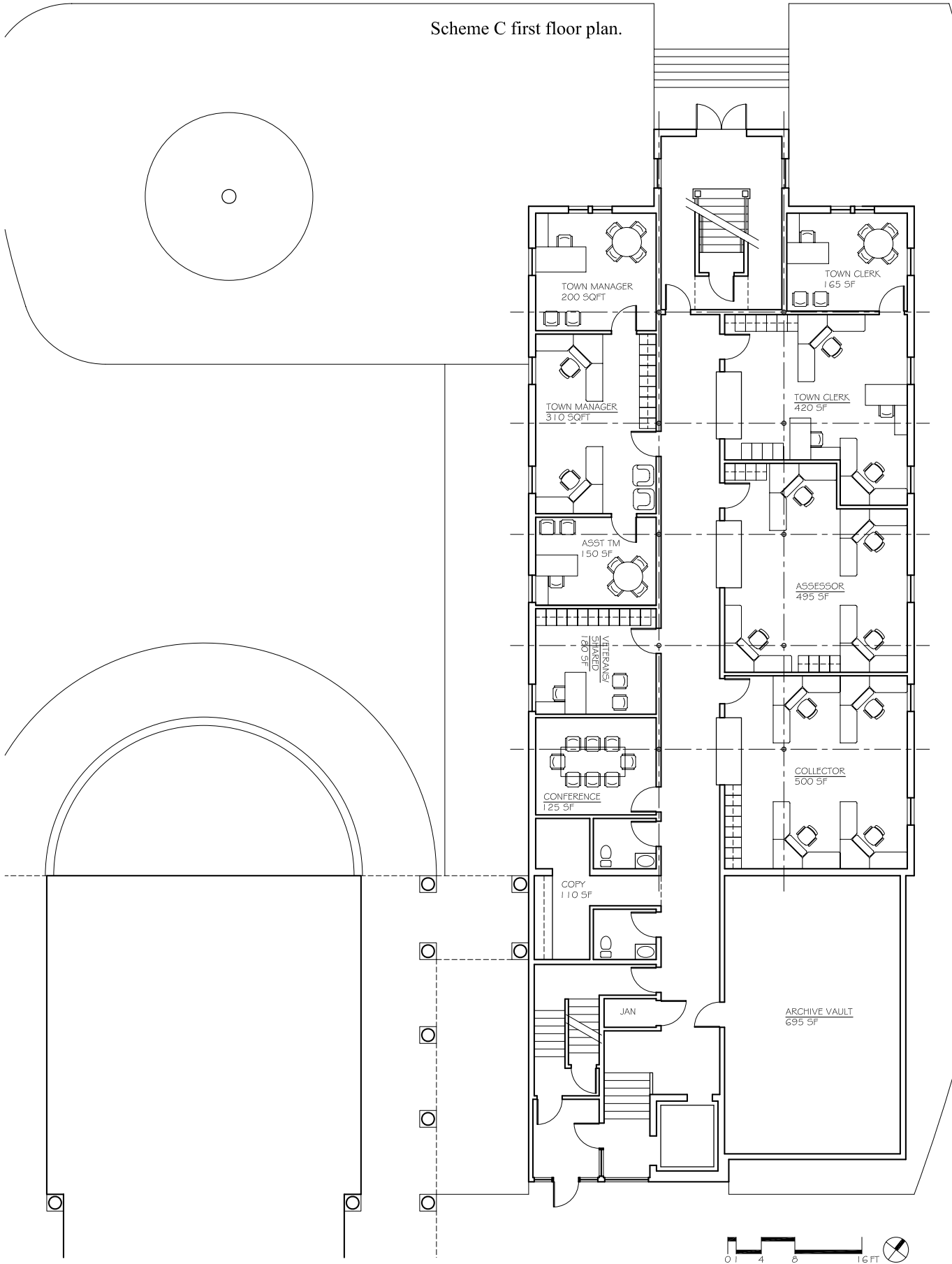
Scheme B1 second floor plan.



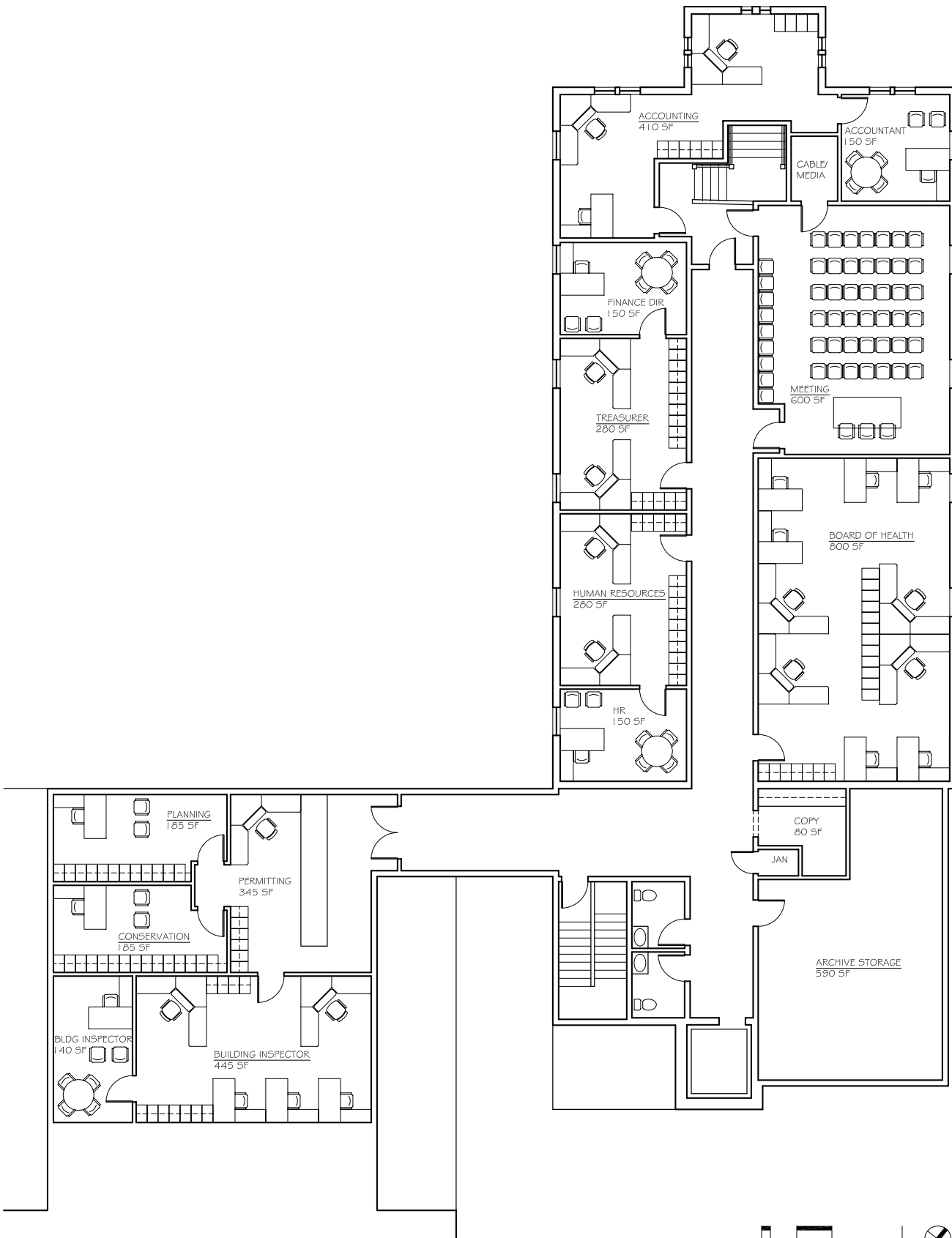
## **Scheme C**

This scheme proposes a two-story addition on the south side of the existing building and a second floor over the existing police station training room. Similar to Scheme B2, the elevator, new egress stairway, and handicapped entrance are located on the west side of the two-story addition, in order to locate the stairway within 20 feet of the area over the police training room. The vault must be located on the first floor of the southerly addition because it is the only new construction area that can be designed as a slab-on-grade. The archival storage and the large meeting, then, are located on the second floor. Program spaces, as originally developed, just fit into these plans. The Police Chief rejected this scheme as too intrusive.

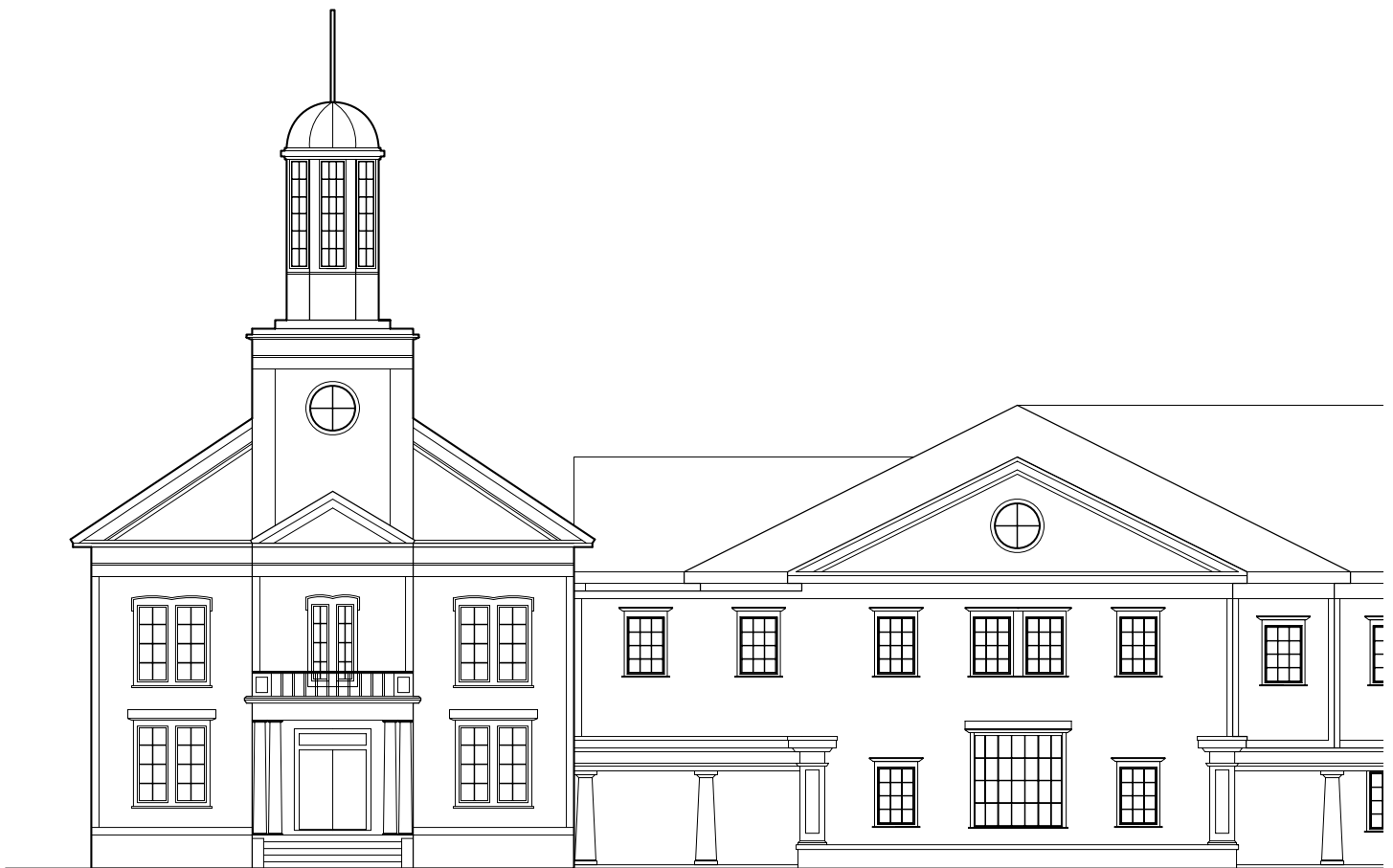
Scheme C first floor plan.



Scheme C first floor plan.



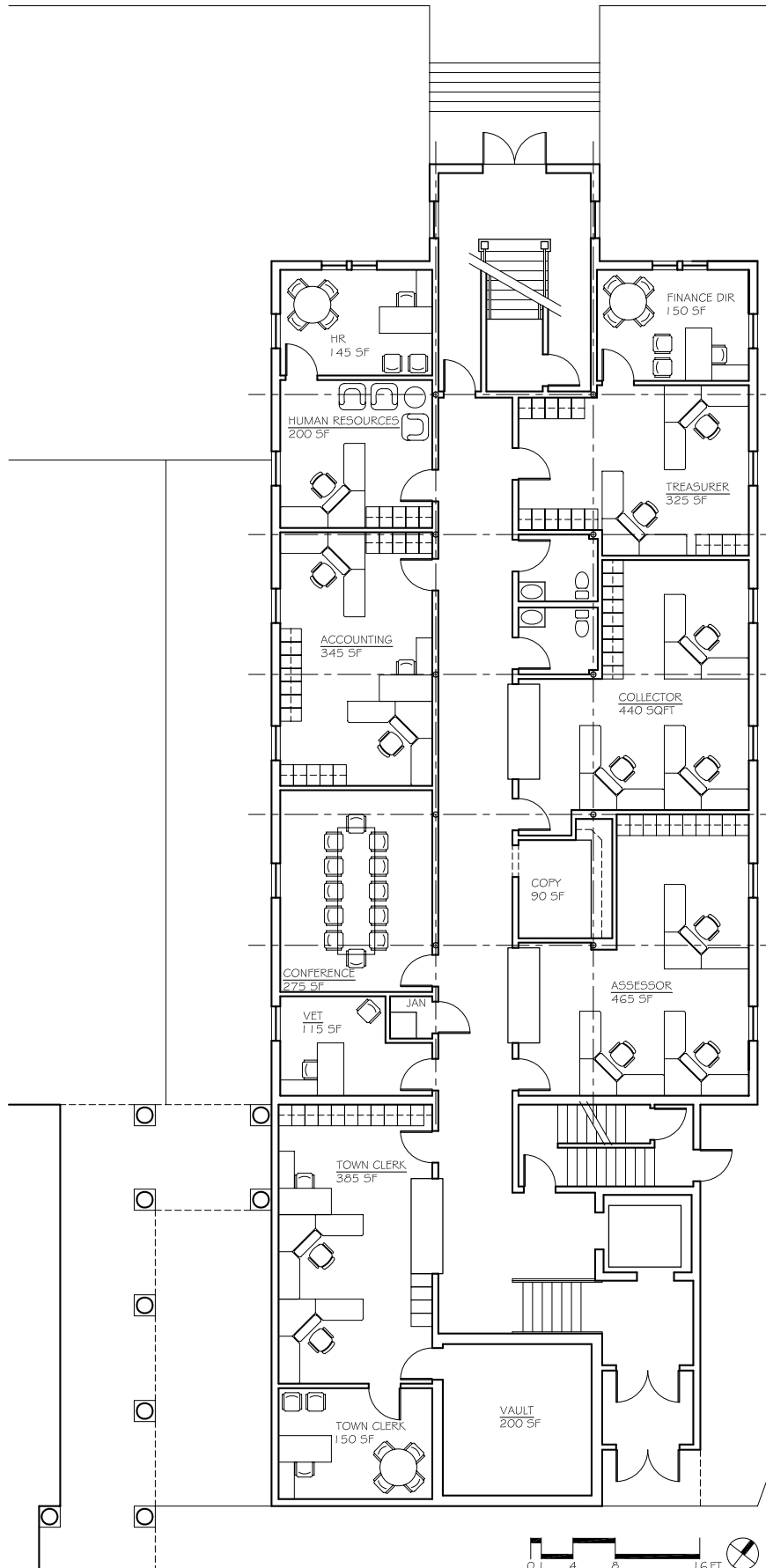
Scheme C Main Street elevation.



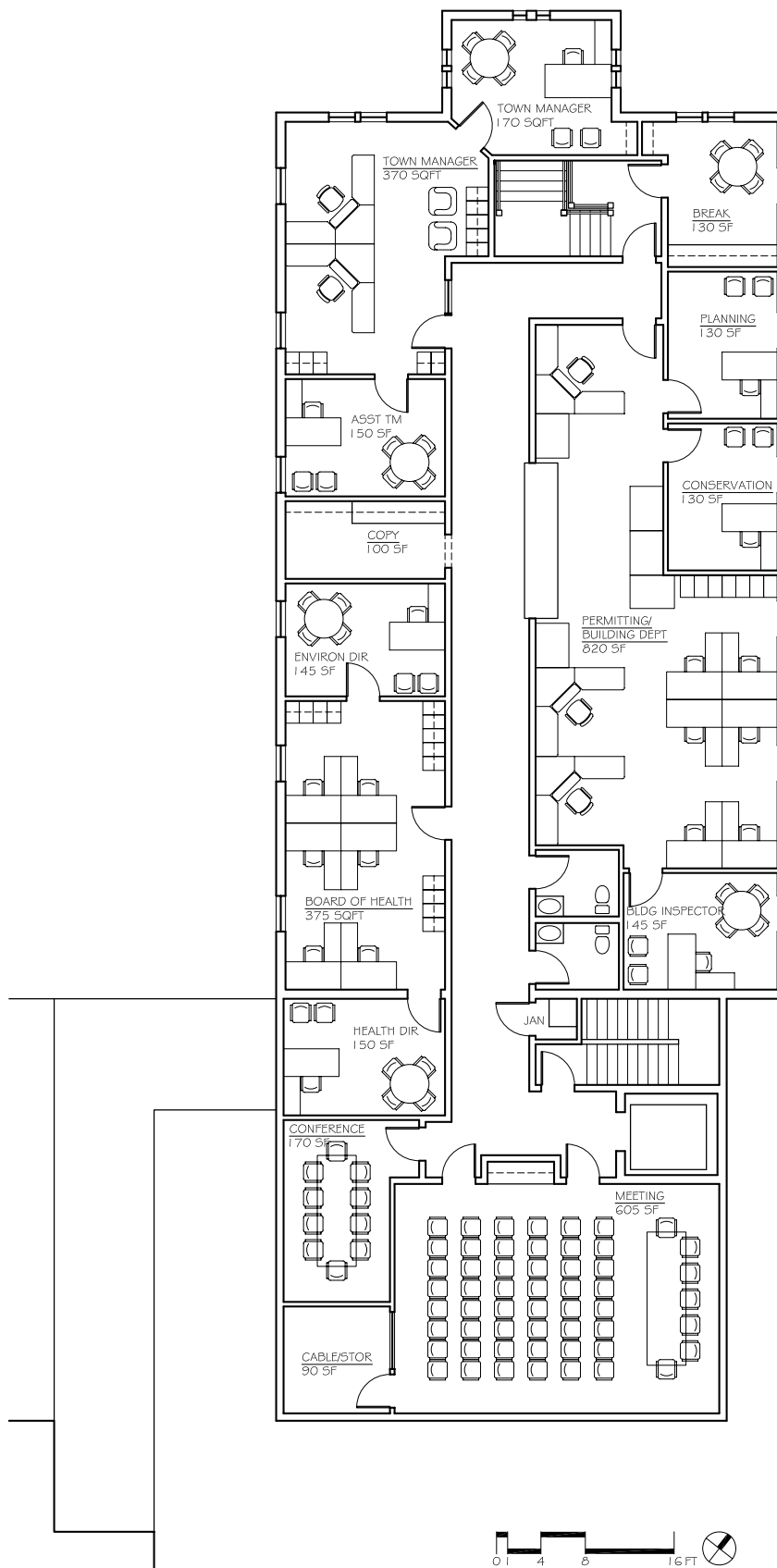
## **Scheme D1**

Schemes D1 and D2 were developed using the revised reduced scope program. This scheme proposes a two-story addition on the south side of the existing building only. It is assumed that the town archive would be off-site, at an unidentified location. In this case, the Town Clerk will require a small vault for records that must be accessed frequently. Program spaces, as revised, fit comfortably into these plans.

Scheme D1 first floor plan.



Scheme D1 second floor plan.





## **APPENDIX H**

### Cost Estimate



# **Westford Town Hall Renovations and Expansion Westford, MA**

## **SD Cost Estimate**

**Prepared for:-  
Kang Associates, Inc.  
Sudbury, MA**

**Prepared by:-  
D G Jones International, Inc.  
3 Baldwin Green Common, Suite 202,  
Woburn, MA 01801-1868  
email : [boston@dgjonesboston.com](mailto:boston@dgjonesboston.com)  
Tel: 781-932-3131  
Fax: 781-932-3199**

**October 13, 2008**

<b>Contents</b>	<b>Page</b>
Summary	1
Notes	2
Estimate - South Expansion	5
Estimate - Link Expansion	12
Estimate - West Expansion	18
Estimate - Renovation	24
Estimate - Site Work/Site Utilities	32
Gross Floor Areas	33
General Requirements	34
Alternate	35

## SUMMARY

Div#	Division Name	<u>Consolidated</u>		<u>South Expansion</u>		<u>Link Expansion</u>		<u>West Expansion</u>		<u>Renovation</u>	
		<u>Cost \$</u>	<u>\$/sf</u>	<u>Cost \$</u>	<u>\$/sf</u>	<u>Cost \$</u>	<u>\$/sf</u>	<u>Cost \$</u>	<u>\$/sf</u>	<u>Cost \$</u>	<u>\$/sf</u>
	Gross Floor Area (in square feet)		<b>15,662</b>		<b>3,192</b>		<b>1,568</b>		<b>3,246</b>		<b>7,656</b>
2	Demolition/Alteration	126,917	8.10	1,500	0.47	750	0.48	1,500	0.46	123,167	16.09
2	Excavation, Etc.	59,379	3.79	15,251	4.78	19,778	12.61	18,526	5.71	5,825	0.76
3	Concrete	182,630	11.66	53,185	16.66	58,583	37.36	58,824	18.12	12,039	1.57
4	Masonry	20,196	1.29	0	0.00	20,196	12.88	0	0.00	0	0.00
5	Metals	86,747	5.54	4,471	1.40	3,445	2.20	31,263	9.63	47,569	6.21
6	Wood & Plastics	306,233	19.55	67,108	21.02	72,475	46.22	70,407	21.69	96,242	12.57
7	Thermal & Moisture Protection	173,627	11.09	48,329	15.14	27,040	17.25	48,353	14.90	49,905	6.52
8	Doors & Windows	276,239	17.64	68,733	21.53	50,614	32.28	34,857	10.74	122,036	15.94
9	Finishes	390,965	24.96	68,540	21.47	35,160	22.42	68,714	21.17	218,551	28.55
10	Specialties	45,890	2.93	7,040	2.21	12,820	8.18	6,265	1.93	19,765	2.58
11	Equipment	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
12	Furnishings	121,561	7.76	37,279	11.68	4,760	3.04	37,090	11.43	42,433	5.54
13	Special Construction	43,670	2.79	0	0.00	0	0.00	43,670	13.45	0	0.00
14	Conveying Systems	97,595	6.23	0	0.00	97,595	62.24	0	0.00	0	0.00
15	Plumbing	84,790	5.41	11,356	3.56	8,733	5.57	4,461	1.37	60,240	7.87
15	Fire Protection	177,551	11.34	35,627	11.16	10,517	6.71	32,714	10.08	98,693	12.89
15	HVAC	520,150	33.21	112,100	35.12	28,971	18.48	113,910	35.09	265,169	34.64
16	Electrical	338,471	21.61	72,532	22.72	27,609	17.61	73,624	22.68	164,705	21.51
	<b>Sub-Total Building</b>	<b>3,052,609</b>	<b>194.91</b>	<b>603,050</b>	<b>188.93</b>	<b>479,045</b>	<b>305.51</b>	<b>644,178</b>	<b>198.45</b>	<b>1,326,336</b>	<b>173.24</b>
2	Site Work/Site Utilities	51,550	3.29								
	<b>Sub-Total Construction</b>	<b>3,104,159</b>	<b>198.20</b>								
1	General Requirements	563,725	35.99								
	Escalation to mid point of construction 1Q2010	5.04%	184,861	11.80							
	Design Contingency	10.00%	385,274	24.60							
	Construction Contingency	7.50%	317,851	20.29							
	<b>Total Construction Cost</b>	<b>4,555,871</b>	<b>290.89</b>								

## Notes

1. Brief project description:-
  - Renovation of existing two story town hall building plus basement along with MEP upgrade and Siteworks
2. The estimate is based on the following:-
  - Prevailing wage.
  - Competitive bid to pre-selected contractors.
  - General contractor type project.
  - Receipt of 5# bona fide bids.
  - No phasing.
  - Bid date 2Q2009
  - 15 month construction period
3. The gross floor area are based on the following:-
  - Measurement is taken to the outside face of the exterior wall.
4. Story heights:-
  - Varies
5. General Requirements for this project are listed and priced within each estimate.
6. Special Conditions are included with General Requirements where applicable.
7. Escalation to mid point of construction 1Q2010 is included @ 4%/annum compounded.
8. Design contingency is an allowance for future design modifications/additions, which alter the cost of the building as the design progresses, this percentage reduces as the design develops. It is based on a percentage of the sum of Sub-Total Construction, General Requirements and Escalation. For this level of estimate the following has been included:-
  - 10.00%
9. Construction contingency is an allowance for scope/design modifications made by the owner during construction and also for any unforeseen circumstances. It is based on a percentage of the sum of Sub-Total Construction, General Requirements, Escalation and Design Contingency. The following has been included:-
  - 7.50%

## **Notes (Cont'd)**

10. This estimate has been prepared from the following design information:-
  - Proposed and Existing Floor Plans and Elevations dated 08/28/2008.
  - Outline Specification dated 09/03/2008.
  - Structural Report on Existing Building dated 07/15/2008.
  - Telephone conversations with KKA.
11. The estimate includes the following:-
  - See Estimate.
12. The estimate excludes the following:-
  - Utility company backcharges.
  - Building permit fees.
  - Sales tax.
  - Design consultant's fees.
  - Loose furniture, fittings and equipment.
  - Fixed furniture, fittings and equipment except as listed in the Estimate.
  - Telephones.
  - Complete audiovisual.
  - Cameras, monitors, videos etc.
13. Allowances:-
  - See Estimate.
14. Assumptions:-
  - See Estimate.
15. Estimates by other firms:-
  - See Estimate.

## Notes (Cont'd)

16. Common abbreviations included in this estimate:-
- ac = air conditioning.
  - cd = construction documents.
  - cf = cubic foot.
  - cy = cubic yard.
  - dd = design development.
  - dl = double leaf.
  - ea = each.
  - EO = extra over.
  - flr = floor.
  - gfa = gross floor area.
  - ilo = in lieu of.
  - lb = pound.
  - lf = linear foot.
  - ls = lump sum.
  - ly = linear yard.
  - mg = make good.
  - opg = opening.
  - rc = reinforced concrete.
  - rsr = riser.
  - sd = schematic design.
  - sf = square foot.
  - sl = single leaf.
  - sog = slab on grade.
  - sy = square yard.
  - tn = ton.
  - vb = vapor barrier.
17. Builders work in connection (BWIC) with conveying, mechanical and electrical systems includes the following:-
- Drilling and coring.
  - Chasing.
  - Cutting and patching.
18. General contractor's overhead and profit included in rates unless stated otherwise.

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<b><u>Demolition/Alteration</u></b>					
<u>Selective Demolition</u>					
Allow for work to demising wall to extg	1	ls	1,500.00	1,500	1500
<b><u>Demolition/Alteration</u></b>	<b><u>Total</u></b>			<b>1,500</b>	1,500
<b><u>Excavation, Etc.</u></b>					
<u>Earthwork</u>					
Excavate/part backfill/part remove off site to:-					
- over area to reduce levels	71	cy	19.00	1,349	
- perimeter strip foundations	166	cy	24.00	3,984	
- interior strip foundations	47	cy	24.00	1,128	
Structural fill to make up levels below sog	83	cy	22.00	1,826	
Subbase below new sog, 4" gravel bed & 2" sand	1,596	sf	1.50	2,394	
Foundation drain w/gravel, excavation, etc	175	lf	14.00	2,450	
Allow for temporary support to face of extg found wall @ South/West corner of extg building	16	lf	35.00	560	
Allow for:-					
- rock removal during excavation work, allow 5% (EO)	14	cy	65.00	910	
- water removal during excavation work	1	ls	650.00	650	15,251
<b><u>Excavation, Etc.</u></b>	<b><u>Total</u></b>			<b>15,251</b>	15,251
<b><u>Concrete</u></b>					
<u>Cast-in-Place Concrete</u>					
Cast in place concrete including formwork & reinforcement to:-					
- perimeter strip foundations	36	cy	485.00	17,460	
- interior strip foundations	10	cy	485.00	4,850	
- perimeter frost wall	550	sf	27.00	14,850	
- interior found wall	135	sf	27.00	3,645	
- sog	1,596	sf	4.82	7,693	
- thickening to sog @ extg building	4	cy	435.00	1,740	
Trowel surface of sog	1,596	sf	0.75	1,197	
Seismic/expansion joints	50	lf	35.00	1,750	53,185
<b><u>Concrete</u></b>	<b><u>Total</u></b>			<b>53,185</b>	53,185
<b><u>Masonry</u></b>					
No work in this Division					
<b><u>Masonry</u></b>	<b><u>Total</u></b>			<b>0</b>	0
<b><u>Metals</u></b>					
<u>Miscellaneous Metals</u>					
Access ladder to Attic	1	ea	875.00	875	



Description	Qty	Unit	Rate	Amount	CSI Sec Totals
Bearing plates	1	ls	1,250.00	1,250	
Miscellaneous metal framing - allowance	1,117	lb	2.10	2,346	4,471
<b><u>Metals</u></b>	<b><u>Total</u></b>			<b>4,471</b>	<b>4,471</b>
<b><u>Wood &amp; Plastics</u></b>					
<b><u>Rough Carpentry</u></b>					
2" x 6" wood studs @ 16" oc to exterior wall	2,850	sf	2.20	6,270	
1/2" exterior grade plywood sheathing	2,850	sf	1.70	4,845	
LVLs @ 16" oc for 2nd Floor framing	1,596	sf	5.50	8,778	
5/8" plywood sub floor	1,596	sf	1.65	2,633	
3/8" plywood underlayment	1,596	sf	1.55	2,474	
Pre-fabricated trusses @ 24" oc (plan area measured)	1,756	sf	5.75	10,097	
3/4" plywood roof sheathing	1,967	sf	1.80	3,540	
Framing to roof perimeter	160	lf	6.00	960	
2" x 4"/6" wood studs to interior partitions	2,365	sf	2.10	4,967	
Wood blocking	1,070	lf	2.95	3,157	47,720
<b><u>Interior Finish Carpentry</u></b>					
Oak bead board wainscoting	14	lf	48.00	672	
Oak chair rail	120	lf	12.00	1,440	
Oak base	14	lf	12.00	168	
6" oak door casing to interior doors	306	lf	10.00	3,060	
6" oak casing to exterior windows/doors	479	lf	10.00	4,790	
Allow for miscellaneous trim, etc	80	lf	12.00	960	11,090
<b><u>Exterior Finish Carpentry</u></b>					
Trim to exterior windows/doors	479	lf	12.00	5,748	
Fascia/soffit	170	lf	15.00	2,550	8,298
<b><u>Wood &amp; Plastics</u></b>	<b><u>Total</u></b>			<b>67,108</b>	<b>67,108</b>
<b><u>Thermal &amp; Moisture Protection</u></b>					
<b><u>Waterproofing &amp; Dampproofing</u></b>					
Bituminous dampproofing to perimeter frost wall	550	sf	1.85	1,018	1,018
<b><u>Building Insulation</u></b>					
2" rigid insulation below sog	1,596	sf	1.35	2,155	
Fiberglas insulation to:-					
- exterior walls	2,850	sf	1.10	3,135	
- interior walls	2,365	sf	1.00	2,365	
- floor of Attic	1,756	sf	1.20	2,107	9,762
<b><u>Air/Vapor Barrier System</u></b>					
Vapor barrier to:-					
- sog	1,596	sf	0.45	718	
- exterior wall	2,850	sf	0.45	1,283	
- roof	1,967	sf	0.45	885	2,886
<b><u>Wood Siding</u></b>					
Cedar wood siding to exterior walls	2,850	sf	5.85	16,673	
Cedar trim to siding	520	lf	5.00	2,600	19,273

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Roofing</u>					
Architectural shingles w/felt	1,967	sf	3.60	7,080	
Edge detail w/flashing	170	lf	6.00	1,020	8,100
<u>Gutters and Downspouts</u>					
Gutter, aluminum	60	lf	12.50	750	
Downspout, aluminum	60	lf	9.50	570	1,320
<u>Firestopping</u>					
Allow	1	ls	850.00	850	850
<u>Sealant</u>					
Exterior sealant to:-					
- windows & doors	482	lf	2.00	964	
- fascias, gutters & trim in cedar wall & roof	510	lf	2.00	1,020	
Interior sealant to:-					
- new interior partitions	860	lf	1.25	1,075	
- windows & doors	824	lf	1.75	1,442	
- plumbing fixtures, etc	6	ea	20.00	120	
- miscellaneous, interior, etc.	1	ls	500.00	500	5,121
<b><u>Thermal &amp; Moisture Protection</u></b>	<b><u>Total</u></b>			<b>48,329</b>	48,329
<b><u>Doors &amp; Windows</u></b>					
<u>Interior Doors</u>					
SL panelled oak door w/hollow metal frame, hardware, etc	9	ea	1,186.00	10,674	
EO for half lite	9	ea	215.00	1,935	
EO for fire rating	5	ea	115.00	575	13,184
<u>Exterior Doors</u>					
SL hollow metal door & frame, hardware, etc	1	ea	1,210.00	1,210	1,210
<u>Exterior Windows</u>					
Aluminum clad wood windows w/insulating glass, hardware, etc	551	sf	75.00	41,344	41,344
<u>Access Doors</u>					
Allow	1	ls	850.00	850	850
<u>Interior Windows</u>					
Hollow metal glazed window to Cable/Media Room on 1st Floor	25	sf	55.00	1,375	1,375
<u>Rolling Counter Grille</u>					
Rolling counter grille to Permitting counter on 1st Floor, manual	18	lf	390.00	7,020	
Rolling grille, floor to ceiling @ ditto	5	lf	750.00	3,750	10,770
<b><u>Doors &amp; Windows</u></b>	<b><u>Total</u></b>			<b>68,733</b>	68,733
<b><u>Finishes</u></b>					
<u>Drywall</u>					
5/8" gwb w/veneer plaster to interior partitions	4,730	sf	2.35	11,116	
5/8" gwb w/veneer plaster to inside face of exterior wall	2,970	sf	2.35	6,980	

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
Metal furring & 5/8" gwb w/veneer plaster to extg exterior wall	902	sf	4.60	4,149	22,244
<u>Floor Finishes</u>					
Carpet	3,097	sf	3.75	11,614	
Cork flooring	95	sf	10.00	950	
Vinyl base	750	lf	3.50	2,625	15,189
<u>Ceiling Finishes</u>					
2' x 4' ACT	3,097	sf	3.55	10,994	
2' x 2' ACT	95	sf	4.00	380	11,374
<u>Wall Finishes</u>					
Paint to walls	8,602	sf	0.95	8,172	8,172
<u>Paint</u>					
Paint to:-					
- access ladder to Attic	1	ea	175.00	175	
- wainscotting	42	sf	1.75	74	
- exterior/interior trim	1,478	lf	2.50	3,695	
- fascia/soffit	170	lf	6.00	1,020	
- cedar siding	2,850	sf	1.25	3,563	
- cedar trim	520	lf	2.50	1,300	
- sl door & frame, interior (both sides measured)	18	ea	65.00	1,170	
- sl door & frame, exterior (both sides measured)	2	ea	70.00	140	
- interior window (both sides measured)	50	sf	3.50	175	
- miscellaneous items	1	ls	250.00	250	11,561
<b><u>Finishes</u></b>	<b><u>Total</u></b>			<b>68,540</b>	<b>68,540</b>
<b><u>Specialties</u></b>					
<u>Signage</u>					
Interior signage, allow per door	10	ea	100.00	1,000	1,000
<u>Fire Extinguishers</u>					
Fire extinguisher w/cabinet	4	ea	385.00	1,540	1,540
<u>Louvers</u>					
Allow	50	sf	65.00	3,250	3,250
<u>Expansion Joint Covers</u>					
Expansion joint & cover, allow	50	lf	25.00	1,250	1,250
<b><u>Specialties</u></b>	<b><u>Total</u></b>			<b>7,040</b>	<b>7,040</b>
<b><u>Equipment</u></b>					
No work in this Division					
<b><u>Equipment</u></b>	<b><u>Total</u></b>			<b>0</b>	<b>0</b>
<b><u>Furnishings</u></b>					

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Casework</u>					
Plam casework:-					
- base cabinet w/countertop to Meeting on 1st Floor	6	lf	345.00	2,070	
- wall cabinet	75	lf	170.00	12,750	
- Service Counter @ Permitting on 2nd Floor	24	lf	775.00	18,600	33,420
<u>Window Shades</u>					
Window shades to exterior windows, manual	551	sf	7.00	3,859	3,859
<b><u>Furnishings</u></b>	<b><u>Total</u></b>			<b>37,279</b>	<b>37,279</b>
<b><u>Special Construction</u></b>					
No work in this Division					
<b><u>Special Construction</u></b>	<b><u>Total</u></b>			<b>0</b>	<b>0</b>
<b><u>Conveying Systems</u></b>					
No work in this Division					
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>				
Builders work in connection with Conveying Systems @ 3%	1	ls			
General Contractor's overhead and profit @ 5%	1	ls			
<b><u>Conveying Systems</u></b>	<b><u>Total</u></b>			<b>0</b>	<b>0</b>
<b><u>Plumbing</u></b>					
Sanitary fixtures complete w/pipework, accessories, etc:-					
- sink to countertop in Meeting Room	1	ea	3,450.00	3,450	
Point of use electric water heater	1	ea	1,500.00	1,500	
Gas service to HVAC systems	1	ls	3,500.00	3,500	
Below sog piping system - allow	25	lf	45.00	1,125	
Allow for access panels	1	ls	150.00	150	
Allow for seismic bracing to pipework	1	ls	150.00	150	
Permit fee	1	ls	250.00	250	
Test & balance	1	ls	375.00	375	10,500
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>			<b>10,500</b>	<b>10,500</b>
Builders work in connection with Plumbing @ 3%	1	ls	315.00	315	
General Contractor's overhead and profit @ 5%	1	ls	540.75	541	856
<b><u>Plumbing</u></b>	<b><u>Total</u></b>			<b>11,356</b>	<b>11,356</b>
<b><u>Fire Protection</u></b>					

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
Wet sprinkler system (gfa)	3,192	sf	5.50	17,556	
Dry system to Attic (gfa)	1,756	sf	6.00	10,536	
6" fire service	10	lf	50.00	500	
Double check valve assembly	1	ea	1,500.00	1,500	
Alarm check valve	1	ea	450.00	450	
Water motor gong	1	ea	300.00	300	
Fire department connection	1	ea	450.00	450	
Allow for seismic restraint	1	ls	250.00	250	
Permit fee	1	ls	250.00	250	
Test and balance	1	ls	1,150.00	1,150	32,942
<b>Sub Bid</b>	<b>Total</b>			<b>32,942</b>	32,942
Builders work in connection with Fire Protection @ 3%	1	ls	988.26	988	
General Contractor's overhead and profit @ 5%	1	ls	1,696.51	1,697	2,685
<b><u>Fire Protection</u></b>	<b><u>Total</u></b>			<b>35,627</b>	35,627
<b><u>HVAC</u></b>					
Equipment (gfa)	3,192	sf	10.00	31,920	
Ductwork (gfa)	3,192	sf	11.00	35,112	
Piping (gfa)	3,192	sf	6.00	19,152	
BMS/ATC (gfa)	3,192	sf	4.00	12,768	
Allow for seismic restraint & vibration isolation	1	ls	1,200.00	1,200	
Test & balance	1	ls	3,500.00	3,500	103,652
<b>Sub Bid</b>	<b>Total</b>			<b>103,652</b>	103,652
Builders work in connection with HVAC @ 3%	1	ls	3,109.56	3,110	
General Contractor's overhead and profit @ 5%	1	ls	5,338.08	5,338	8,448
<b><u>HVAC</u></b>	<b><u>Total</u></b>			<b>112,100</b>	112,100
<b><u>Electrical</u></b>					
<u>Equipment, Panelboards, etc.</u>					
Allow for electrical equipment, panelboards, etc. (gfa)	3,192	sf	1.50	4,788	4,788
<u>Feeders</u>					
Allow for feeders (gfa)	3,192	sf	1.00	3,192	3,192
<u>Small Power</u>					
Allow for small power (gfa)	3,192	sf	3.35	10,693	10,693
<u>Lighting</u>					
Allow for lighting & switching (gfa)	3,192	sf	6.00	19,152	
EO for decorative lighting	6	ea	165.00	990	
Exterior wall light	6	ea	506.00	3,036	23,178
<u>Fire Alarm</u>					
Allow for fire alarm (gfa)	3,192	sf	2.75	8,778	8,778
<u>Security (empty conduit)</u>					

cmcg\mydocs\projects\2008\2008-048 Westford TH, SD, Oct 08

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<b><u>Demolition/Alteration</u></b>					
<u>Selective Demolition</u>					
Allow for work to demising wall to extg	1	ls	750.00	750	750
<b><u>Demolition/Alteration</u></b>	<b><u>Total</u></b>			<b>750</b>	<b>750</b>
<b><u>Excavation, Etc.</u></b>					
<u>Earthwork</u>					
Excavate/part backfill/part remove off site to:-					
- over area to reduce levels	273	cy	19.00	5,187	
- perimeter strip foundations	121	cy	24.00	2,904	
- interior strip foundations	46	cy	24.00	1,104	
- elevator pit	25	cy	24.00	600	
Subbase below new sog, 4" gravel bed & 2" sand	643	sf	1.50	965	
Foundation drain w/gravel, excavation, etc	132	lf	14.00	1,848	
Allow for temporary support to face of extg found wall @ South elevation	34	lf	35.00	1,190	
Allow for temporary earth support to West elevation	460	sf	5.00	2,300	
Allow for:-					
- rock removal during excavation work, allow 5% (EO)	22	cy	65.00	1,430	
- water removal during excavation work	1	ls	2,250.00	2,250	19,778
<b><u>Excavation, Etc.</u></b>	<b><u>Total</u></b>			<b>19,778</b>	<b>19,778</b>
<b><u>Concrete</u></b>					
<u>Cast-in-Place Concrete</u>					
Cast in place concrete including formwork & reinforcement to:-					
- perimeter strip foundations	26	cy	485.00	12,610	
- interior strip foundations	10	cy	485.00	4,850	
- perimeter frost wall	283	sf	27.00	7,641	
- perimeter basement wall	946	sf	27.00	25,542	
- interior found wall	54	sf	27.00	1,458	
- sog	643	sf	4.82	3,099	
- elevator pit			included above		
Trowel surface of sog	643	sf	0.75	482	
Elevator sump pump pit	1	ea	450.00	450	
Seismic/expansion joints	70	lf	35.00	2,450	58,583
<b><u>Concrete</u></b>	<b><u>Total</u></b>			<b>58,583</b>	<b>58,583</b>
<b><u>Masonry</u></b>					
8" cmu elevator shaft walls	1,188	sf	17.00	20,196	20,196
<b><u>Masonry</u></b>	<b><u>Total</u></b>			<b>20,196</b>	<b>20,196</b>
<b><u>Metals</u></b>					

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Miscellaneous Metals</u>					
Bearing plates	1	ls	500.00	500	
Ladder to elevator pit	1	ea	475.00	475	
Miscellaneous metal framing/elevator hoist beam - allowance	1,176	lb	2.10	2,470	3,445
<b><u>Metals</u></b>	<b><u>Total</u></b>			<b>3,445</b>	<b>3,445</b>
<u>Wood &amp; Plastics</u>					
<u>Rough Carpentry</u>					
2" x 6" wood studs @ 16" oc to exterior wall	1,260	sf	2.20	2,772	
1/2" exterior grade plywood sheathing	1,260	sf	1.70	2,142	
LVLs @ 16" oc for 1st/2nd Floor framing	1,126	sf	5.50	6,193	
5/8" plywood sub floor	1,126	sf	1.65	1,858	
3/8" plywood underlayment	1,126	sf	1.55	1,745	
Pre-fabricated trusses @ 24" oc (plan area measured)	760	sf	5.75	4,370	
3/4" plywood roof sheathing	851	sf	1.80	1,532	
Framing to roof perimeter	127	lf	6.00	762	
2" x 4"/6" wood studs to interior partitions	1,100	sf	2.10	2,310	
Wood blocking	808	lf	2.95	2,384	26,068
<u>Interior Finish Carpentry</u>					
Wood framed stair w/railings, etc complete	2	flr	11,875.00	23,750	
Oak bead board wainscoting	129	lf	48.00	6,192	
Oak chair rail	129	lf	12.00	1,548	
Oak base	129	lf	12.00	1,548	
6" oak door casing to interior doors	136	lf	10.00	1,360	
6" oak casing to exterior windows/doors	432	lf	10.00	4,320	
Allow for miscellaneous trim, etc	50	lf	12.00	600	39,318
<u>Exterior Finish Carpentry</u>					
Trim to exterior windows/doors	432	lf	12.00	5,184	
Fascia/soffit	127	lf	15.00	1,905	7,089
<b><u>Wood &amp; Plastics</u></b>	<b><u>Total</u></b>			<b>72,475</b>	<b>72,475</b>
<u>Thermal &amp; Moisture Protection</u>					
<u>Waterproofing &amp; Dampproofing</u>					
Bituminous dampproofing to foundation walls	1,283	sf	1.85	2,374	
Waterproofing to elevator pit	192	sf	9.50	1,824	4,198
<u>Building Insulation</u>					
2" rigid insulation below sog	643	sf	1.35	868	
Fiberglas insulation to:-					
- exterior walls	1,260	sf	1.10	1,386	
- interior walls	1,100	sf	1.00	1,100	
- floor of Attic	760	sf	1.20	912	4,266
<u>Air/Vapor Barrier System</u>					
Vapor barrier to:-					
- sog	643	sf	0.45	289	
- exterior wall	1,260	sf	0.45	567	
- roof	851	sf	0.45	383	1,239



Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Wood Siding</u>					
Cedar wood siding to exterior walls	1,260	sf	5.85	7,371	
Cedar trim to siding	389	lf	5.00	1,945	9,316
<u>Roofing</u>					
Architectural shingles w/felt	851	sf	3.60	3,064	
Edge detail w/flashing	127	lf	6.00	762	3,826
<u>Gutters and Downspouts</u>					
Gutter, aluminum	48	lf	12.50	600	
Downspout, aluminum	60	lf	9.50	570	1,170
<u>Firestopping</u>					
Allow	1	ls	600.00	600	600
<u>Sealant</u>					
Exterior sealant to:-					
- windows & doors	180	lf	2.00	360	
- fascias, gutters & trim in cedar wall & roof	381	lf	2.00	762	
Interior sealant to:-					
- new interior partitions	400	lf	1.25	500	
- windows & doors	316	lf	1.75	553	
- miscellaneous, interior, etc.	1	ls	250.00	250	2,425
<b><u>Thermal &amp; Moisture Protection</u></b>	<b>Total</b>			<b>27,040</b>	27,040
<b><u>Doors &amp; Windows</u></b>					
<u>Interior Doors</u>					
SL panelled oak door w/hollow metal frame, hardware, etc	4	ea	1,186.00	4,744	
EO for half lite	4	ea	215.00	860	
EO for fire rating	4	ea	115.00	460	6,064
<u>Storefront</u>					
Aluminum storefront w/insulating glass, etc	680	sf	62.50	42,500	42,500
EO for sl door	2	ea	900.00	1,800	1,800
<u>Access Doors</u>					
Allow	1	ls	250.00	250	250
<b><u>Doors &amp; Windows</u></b>	<b>Total</b>			<b>50,614</b>	50,614
<b><u>Finishes</u></b>					
<u>Drywall</u>					
5/8" gwb w/veneer plaster to interior partitions	2,200	sf	2.35	5,170	
5/8" gwb w/veneer plaster to inside face of exterior wall	1,260	sf	2.35	2,961	
Metal furring & 5/8" gwb w/veneer plaster to extg exterior wall	240	sf	4.60	1,104	9,235
<u>Floor Finishes</u>					
Porcelain tile	160	sf	16.50	2,640	
Cork flooring	353	sf	10.00	3,530	
Rubber flooring to stairs/landings	2	flr	1,275.00	2,550	

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
Tile base	64	lf	14.00	896	
Vinyl base	125	lf	3.50	438	10,054
<u>Ceiling Finishes</u>					
2' x 4' ACT	160	sf	3.55	568	
2' x 2' ACT	353	sf	4.00	1,412	
Soffit to stairs	3	ea	500.00	1,500	3,480
<u>Wall Finishes</u>					
Paint to walls	3,700	sf	0.95	3,515	3,515
<u>Paint</u>					
Paint to:-					
- wood framed stair w/railings, etc complete	2	flr	475.00	950	
- wainscotting	387	sf	1.75	677	
- exterior/interior trim	1,308	lf	2.50	3,270	
- fascia/soffit	127	lf	6.00	762	
- cedar siding	1,260	sf	1.25	1,575	
- cedar trim	389	lf	2.50	973	
- sl door & frame, interior (both sides measured)	8	ea	65.00	520	
- miscellaneous items	1	ls	150.00	150	8,877
<b><u>Finishes</u></b>	<b><u>Total</u></b>			<b>35,160</b>	35,160
<b><u>Specialties</u></b>					
<u>Signage</u>					
Building directory	1	ea	3,500.00	3,500	
Interior signage, allow per door	6	ea	100.00	600	
Exterior building sign	1	ea	4,000.00	4,000	8,100
<u>Fire Extinguishers</u>					
Fire extinguisher w/cabinet	2	ea	385.00	770	770
<u>Louvers</u>					
Allow	50	sf	65.00	3,250	3,250
<u>Expansion Joint Covers</u>					
Expansion joint & cover, allow	28	lf	25.00	700	700
<b><u>Specialties</u></b>	<b><u>Total</u></b>			<b>12,820</b>	12,820
<b><u>Equipment</u></b>					
No work in this Division					
<b><u>Equipment</u></b>	<b><u>Total</u></b>			<b>0</b>	0
<b><u>Furnishings</u></b>					
<u>Window Shades</u>					
Window shades to exterior windows, manual	680	sf	7.00	4,760	4,760

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<b><u>Furnishings</u></b>	<b><u>Total</u></b>			<b>4,760</b>	4,760
<b><u>Special Construction</u></b>					
No work in this Division					
<b><u>Special Construction</u></b>	<b><u>Total</u></b>			<b>0</b>	<b>0</b>
<b><u>Conveying Systems</u></b>					
Holeless hydraulic elevator 4# stops, front & rear entry	1	ea	90,240.00	90,240	90,240
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>			<b>90,240</b>	90,240
Builders work in connection with Conveying Systems @ 3%	1	ls	2,707.20	2,707	
General Contractor's overhead and profit @ 5%	1	ls	4,647.36	4,647	7,355
<b><u>Conveying Systems</u></b>	<b><u>Total</u></b>			<b>97,595</b>	97,595
<b><u>Plumbing</u></b>					
Sump pump to elevator pit	1	ea	2,250.00	2,250	
Oil interceptor to elevator pit	1	ea	3,250.00	3,250	
Gas service to HVAC systems	1	ls	1,500.00	1,500	
Below sog piping system - allow	10	lf	45.00	450	
Allow for access panels	1	ls	75.00	75	
Allow for seismic bracing to pipework	1	ls	50.00	50	
Permit fee	1	ls	250.00	250	
Test & balance	1	ls	250.00	250	8,075
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>			<b>8,075</b>	8,075
Builders work in connection with Plumbing @ 3%	1	ls	242.25	242	
General Contractor's overhead and profit @ 5%	1	ls	415.86	416	658
<b><u>Plumbing</u></b>	<b><u>Total</u></b>			<b>8,733</b>	8,733
<b><u>Fire Protection</u></b>					
Wet sprinkler system (gfa)	1,568	sf	5.50	8,624	
Allow for seismic restraint	1	ls	200.00	200	
Permit fee	1	ls	250.00	250	
Test and balance	1	ls	650.00	650	9,724
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>			<b>9,724</b>	9,724
Builders work in connection with Fire Protection @ 3%	1	ls	291.72	292	
General Contractor's overhead and profit @ 5%	1	ls	500.79	501	793

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<b><u>Fire Protection</u></b>	<b><u>Total</u></b>			<b>10,517</b>	10,517
<b><u>HVAC</u></b>					
Equipment (gfa)	1,568	sf	3.00	4,704	
Ductwork (gfa)	1,568	sf	6.00	9,408	
Piping (gfa)	1,568	sf	4.00	6,272	
BMS/ATC (gfa)	1,568	sf	3.00	4,704	
Allow for seismic restraint & vibration isolation	1	ls	500.00	500	
Test & balance	1	ls	1,200.00	1,200	26,788
<b>Sub Bid</b>	<b>Total</b>			<b>26,788</b>	26,788
Builders work in connection with HVAC @ 3%	1	ls	803.64	804	
General Contractor's overhead and profit @ 5%	1	ls	1,379.58	1,380	2,183
<b><u>HVAC</u></b>	<b><u>Total</u></b>			<b>28,971</b>	28,971
<b><u>Electrical</u></b>					
<u>Equipment, Panelboards, etc.</u>					
Allow for electrical equipment, panelboards, etc. (gfa)	1,568	sf	1.50	2,352	2,352
<u>Feeders</u>					
Allow for feeders (gfa)	1,568	sf	0.50	784	784
<u>Small Power</u>					
Allow for small power (gfa)	1,568	sf	3.00	4,704	4,704
<u>Lighting</u>					
Allow for lighting & switching (gfa)	1,568	sf	4.00	6,272	
EO for decorative lighting	2	ea	165.00	330	
Exterior wall light	4	ea	506.00	2,024	8,626
<u>Fire Alarm</u>					
Allow for fire alarm (gfa)	1,568	sf	2.75	4,312	4,312
<u>Security (empty conduit)</u>					
Allow for security system (gfa)	1,568	sf	0.25	392	392
<u>PA system (empty conduit)</u>					
Allow for security system (gfa)	1,568	sf	0.15	235	235
<u>Tel/Data Systems (fully cabled system)</u>					
Allow for tel/data systems, fully cabled (gfa)	1,568	sf	1.00	1,568	1,568
<u>General</u>					
Allow for:-					
- lightning protection (gfa)	1,568	sf	0.25	392	
- grounding (gfa)	1,568	sf	0.20	314	
- seismic bracing	1	ls	300.00	300	
- permit fees	1	ls	350.00	350	
- testing	1	ls	1,200.00	1,200	2,556

cmc9\mydocs\projects\2008\2008-048 Westford TH, SD, Oct 08

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<b><u>Demolition/Alteration</u></b>					
<u>Selective Demolition</u>					
Allow for work to demising wall to extg	1	ls	1,500.00	1,500	1500
<b><u>Demolition/Alteration</u></b>	<b><u>Total</u></b>			<b>1,500</b>	1,500
<b><u>Excavation, Etc.</u></b>					
<u>Earthwork</u>					
Excavate/part backfill/part remove off site to:-					
- over area to reduce levels	73	cy	19.00	1,387	
- perimeter strip foundations	174	cy	24.00	4,176	
- interior strip foundations	54	cy	24.00	1,296	
Structural fill to make up levels below sog	180	cy	22.00	3,960	
Subbase below new sog, 4" gravel bed & 2" sand	1,623	sf	1.50	2,435	
Foundation drain w/gravel, excavation, etc	183	lf	14.00	2,562	
Allow for temporary support to face of extg found wall @ South/West corner of extg building	31	lf	35.00	1,085	
Allow for:-					
- rock removal during excavation work, allow 5% (EO)	15	cy	65.00	975	
- water removal during excavation work	1	ls	650.00	650	18,526
<b><u>Excavation, Etc.</u></b>	<b><u>Total</u></b>			<b>18,526</b>	18,526
<b><u>Concrete</u></b>					
<u>Cast-in-Place Concrete</u>					
Cast in place concrete including formwork & reinforcement to:-					
- perimeter strip foundations	37	cy	485.00	17,945	
- interior strip foundations	12	cy	485.00	5,820	
- perimeter frost wall	540	sf	27.00	14,580	
- interior found wall	156	sf	27.00	4,212	
- sog	1,623	sf	4.82	7,823	
- thickening to sog @ extg building	4	cy	435.00	1,740	
- topping to Vault roof	704	sf	6.00	4,224	
Trowel surface of sog/topping	2,327	sf	0.75	1,745	
Seismic/expansion joints	21	lf	35.00	735	58,824
<b><u>Concrete</u></b>	<b><u>Total</u></b>			<b>58,824</b>	58,824
<b><u>Masonry</u></b>					
No work in this Division					
<b><u>Masonry</u></b>	<b><u>Total</u></b>			<b>0</b>	0
<b><u>Metals</u></b>					
<u>Miscellaneous Metals</u>					

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
Framing to Vault roof	8,448	lb	2.75	23,232	
Metal decking to Vault roof	704	sf	5.00	3,520	
Bearing plates	1	ls	1,250.00	1,250	
Access ladder to Attic	1	ea	875.00	875	
Miscellaneous metal framing - allowance	1,136	lb	2.10	2,386	31,263
<b>Metals</b>	<b>Total</b>			<b>31,263</b>	31,263
<b>Wood &amp; Plastics</b>					
<u>Rough Carpentry</u>					
2" x 6" wood studs @ 16" oc to exterior wall	2,870	sf	2.20	6,314	
1/2" exterior grade plywood sheathing	2,870	sf	1.70	4,879	
LVLs @ 16" oc for 2nd Floor framing	1,623	sf	5.50	8,927	
5/8" plywood sub floor	1,623	sf	1.65	2,678	
3/8" plywood underlayment	1,623	sf	1.55	2,516	
Pre-fabricated trusses @ 24" oc (plan area measured)	1,791	sf	5.75	10,298	
3/4" plywood roof sheathing	2,006	sf	1.80	3,611	
Framing to roof perimeter	168	lf	6.00	1,008	
2" x 4"/6" wood studs to interior partitions	2,563	sf	2.10	5,382	
EO for additional framing @ Vault walls, interior & exterior	1,144	sf	3.50	4,004	
Wood blocking	1,138	lf	2.95	3,357	52,973
<u>Interior Finish Carpentry</u>					
Oak bead board wainscoting	78	lf	48.00	3,744	
Oak chair rail	78	lf	12.00	936	
Oak base	78	lf	12.00	936	
6" oak door casing to interior doors	238	lf	10.00	2,380	
6" oak casing to exterior windows/doors	264	lf	10.00	2,640	
Allow for miscellaneous trim, etc	80	lf	12.00	960	11,596
<u>Exterior Finish Carpentry</u>					
Trim to exterior windows/doors	264	lf	12.00	3,168	
Fascia/soffit	178	lf	15.00	2,670	5,838
<b>Wood &amp; Plastics</b>	<b>Total</b>			<b>70,407</b>	70,407
<b>Thermal &amp; Moisture Protection</b>					
<u>Waterproofing &amp; Dampproofing</u>					
Bituminous dampproofing to perimeter frost wall	540	sf	1.85	999	999
<u>Building Insulation</u>					
2" rigid insulation below sog	1,623	sf	1.35	2,191	
Fiberglas insulation to:-					
- exterior walls	2,870	sf	1.10	3,157	
- interior walls	2,563	sf	1.00	2,563	
- floor of Attic	1,791	sf	1.20	2,149	10,060
<u>Air/Vapor Barrier System</u>					
Vapor barrier to:-					
- sog	1,623	sf	0.45	730	
- exterior wall	2,870	sf	0.45	1,292	
- roof	2,006	sf	0.45	903	2,925

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Wood Siding</u>					
Cedar wood siding to exterior walls	2,870	sf	5.85	16,790	
Cedar trim to siding	536	lf	5.00	2,680	19,470
<u>Roofing</u>					
Architectural shingles w/felt	2,006	sf	3.60	7,221	
Edge detail w/flashing	178	lf	6.00	1,068	8,289
<u>Gutters and Downspouts</u>					
Gutter, aluminum	79	lf	12.50	988	
Downspout, aluminum	60	lf	9.50	570	1,558
<u>Firestopping</u>					
Allow	1	ls	850.00	850	850
<u>Sealant</u>					
Exterior sealant to:-					
- windows & doors	264	lf	2.00	528	
- fascias, gutters & trim in cedar wall & roof	534	lf	2.00	1,068	
Interior sealant to:-					
- new interior partitions	932	lf	1.25	1,165	
- windows & doors	538	lf	1.75	942	
- miscellaneous, interior, etc.	1	ls	500.00	500	4,203
<b><u>Thermal &amp; Moisture Protection</u></b>	<b>Total</b>			<b>48,353</b>	48,353
<b><u>Doors &amp; Windows</u></b>					
<u>Interior Doors</u>					
SL panelled oak door w/hollow metal frame, hardware, etc	7	ea	1,186.00	8,302	
EO for half lite	7	ea	215.00	1,505	
EO for fire rating	5	ea	115.00	575	10,382
<u>Exterior Windows</u>					
Aluminum clad wood windows w/insulating glass, hardware, etc	315	sf	75.00	23,625	23,625
<u>Access Doors</u>					
Allow	1	ls	850.00	850	850
<b><u>Doors &amp; Windows</u></b>	<b>Total</b>			<b>34,857</b>	34,857
<b><u>Finishes</u></b>					
<u>Drywall</u>					
5/8" gwb w/veneer plaster to interior partitions	5,126	sf	2.35	12,046	
5/8" gwb w/veneer plaster to inside face of exterior wall	3,036	sf	2.35	7,135	
Metal furring & 5/8" gwb w/veneer plaster to extg exterior wall	682	sf	4.60	3,137	22,318
<u>Floor Finishes</u>					
Carpet	3,060	sf	3.75	11,475	
Cork flooring	186	sf	10.00	1,860	
Vinyl base	802	lf	3.50	2,807	16,142



Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Ceiling Finishes</u>					
2' x 4' ACT	3,060	sf	3.55	10,863	
2' x 2' ACT	186	sf	4.00	744	11,607
<u>Wall Finishes</u>					
Paint to walls	8,844	sf	0.95	8,402	8,402
<u>Paint</u>					
Paint to:-					
- access ladder to Attic	1	ea	175.00	175	
- wainscotting	234	sf	1.75	410	
- exterior/interior trim	1,002	lf	2.50	2,505	
- fascia/soffit	178	lf	6.00	1,068	
- cedar siding	2,870	sf	1.25	3,588	
- cedar trim	536	lf	2.50	1,340	
- sl door & frame, interior (both sides measured)	14	ea	65.00	910	
- miscellaneous items	1	ls	250.00	250	10,245
<b><u>Finishes</u></b>	<b><u>Total</u></b>			<b>68,714</b>	<b>68,714</b>
<b><u>Specialties</u></b>					
<u>Signage</u>					
Interior signage, allow per door	7	ea	100.00	700	700
<u>Fire Extinguishers</u>					
Fire extinguisher w/cabinet	4	ea	385.00	1,540	1,540
<u>Louvers</u>					
Allow	50	sf	65.00	3,250	3,250
<u>Expansion Joint Covers</u>					
Expansion joint & cover, allow	31	lf	25.00	775	775
<b><u>Specialties</u></b>	<b><u>Total</u></b>			<b>6,265</b>	<b>6,265</b>
<b><u>Equipment</u></b>					
No work in this Division					
<b><u>Equipment</u></b>	<b><u>Total</u></b>			<b>0</b>	<b>0</b>
<b><u>Furnishings</u></b>					
<u>Casework</u>					
Plam casework:-					
- base cabinet w/countertop to Copy on 2nd Floor	17	lf	345.00	5,865	
- wall cabinet	50	lf	170.00	8,500	14,365
<u>Window Shades</u>					
Window shades to exterior windows, manual	315	sf	7.00	2,205	2,205

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Metal Shelving</u>					
Metal shelving to Archive Storage & Vault, allow 6# tier	171	lf	120.00	20,520	20,520
<b><u>Furnishings</u></b>	<b><u>Total</u></b>			<b>37,090</b>	<b>37,090</b>
<b><u>Special Construction</u></b>					
6 hour rated vault panels to walls of Vault	1,144	sf	30.00	34,320	
6 hour rated vault door to Vault w/frames, hardware, etc	1	ea	9,350.00	9,350	43,670
<b><u>Special Construction</u></b>	<b><u>Total</u></b>			<b>43,670</b>	<b>43,670</b>
<b><u>Conveying Systems</u></b>					
No work in this Division					
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>				
Builders work in connection with Conveying Systems @ 3%	1	ls			
General Contractor's overhead and profit @ 5%	1	ls			
<b><u>Conveying Systems</u></b>	<b><u>Total</u></b>			<b>0</b>	<b>0</b>
<b><u>Plumbing</u></b>					
Gas service to HVAC systems	1	ls	3,500.00	3,500	
Allow for access panels	1	ls	100.00	100	
Allow for seismic bracing to pipework	1	ls	150.00	150	
Permit fee	1	ls	250.00	250	
Test & balance	1	ls	125.00	125	4,125
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>			<b>4,125</b>	<b>4,125</b>
Builders work in connection with Plumbing @ 3%	1	ls	123.75	124	
General Contractor's overhead and profit @ 5%	1	ls	212.44	212	336
<b><u>Plumbing</u></b>	<b><u>Total</u></b>			<b>4,461</b>	<b>4,461</b>
<b><u>Fire Protection</u></b>					
Wet sprinkler system (gfa)	3,246	sf	5.50	17,853	
Dry system to Attic (gfa)	1,791	sf	6.00	10,746	
Allow for seismic restraint	1	ls	250.00	250	
Permit fee	1	ls	250.00	250	
Test and balance	1	ls	1,150.00	1,150	30,249
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>			<b>30,249</b>	<b>30,249</b>
Builders work in connection with Fire Protection @ 3%	1	ls	907.47	907	
General Contractor's overhead and profit @ 5%	1	ls	1,557.82	1,558	2,465

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<b><u>Fire Protection</u></b>	<b>Total</b>			<b>32,714</b>	32,714
<b><u>HVAC</u></b>					
Equipment (gfa)	3,246	sf	10.00	32,460	
Ductwork (gfa)	3,246	sf	11.00	35,706	
Piping (gfa)	3,246	sf	6.00	19,476	
BMS/ATC (gfa)	3,246	sf	4.00	12,984	
Allow for seismic restraint & vibration isolation	1	ls	1,200.00	1,200	
Test & balance	1	ls	3,500.00	3,500	105,326
<b>Sub Bid</b>	<b>Total</b>			<b>105,326</b>	105,326
Builders work in connection with HVAC @ 3%	1	ls	3,159.78	3,160	
General Contractor's overhead and profit @ 5%	1	ls	5,424.29	5,424	8,584
<b><u>HVAC</u></b>	<b>Total</b>			<b>113,910</b>	113,910
<b><u>Electrical</u></b>					
<u>Equipment, Panelboards, etc.</u>					
Allow for electrical equipment, panelboards, etc. (gfa)	3,246	sf	1.50	4,869	4,869
<u>Feeders</u>					
Allow for feeders (gfa)	3,246	sf	1.00	3,246	3,246
<u>Small Power</u>					
Allow for small power (gfa)	3,246	sf	3.35	10,874	10,874
<u>Lighting</u>					
Allow for lighting & switching (gfa)	3,246	sf	6.00	19,476	
EO for decorative lighting	6	ea	165.00	990	
Exterior wall light	6	ea	506.00	3,036	23,502
<u>Fire Alarm</u>					
Allow for fire alarm (gfa)	3,246	sf	2.75	8,927	8,927
<u>Security (empty conduit)</u>					
Allow for security system (gfa)	3,246	sf	0.25	812	812
<u>PA system (empty conduit)</u>					
Allow for security system (gfa)	3,246	sf	0.15	487	487
<u>Tel/Data Systems (fully cabled system)</u>					
Allow for tel/data systems, fully cabled (gfa)	3,246	sf	3.25	10,550	10,550
<u>General</u>					
Allow for:-					
- lightning protection (gfa)	3,246	sf	0.25	812	
- grounding (gfa)	3,246	sf	0.20	649	
- seismic bracing	1	ls	500.00	500	
- permit fees	1	ls	350.00	350	
- testing	1	ls	2,500.00	2,500	4,811
<b>Sub Bid</b>	<b>Total</b>			<b>68,076</b>	68,076

cmcq\mydocs\projects\2008\2008-048 Westford TH, SD, Oct 08

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<b><u>Demolition/Alteration</u></b>					
<u>Selective Demolition</u>					
Form opening in extg exterior wall & mg:-					
- 1st Floor, 5' x 8'	1	ea	562.00	562	
- 1st Floor, 6' x 8'	1	ea	620.00	620	
- 1st floor, 7' x 8'	1	ea	678.00	678	
- 2nd Floor, 6' x 8'	1	ea	620.00	620	
- 1st floor, 9' x 8'	1	ea	794.00	794	
Fill opening in extg exterior wall & mg:-					
- window opening	5	ea	408.00	2,040	
- sl door opening	1	ea	385.00	385	
Demolish & remove:-					
- interior finishes, partitions, doors, casework, etc (gfa)	7,656	sf	6.00	45,936	
- MEP systems (gfa)	7,656	sf	2.25	17,226	
- exterior window	38	ea	91.88	3,491	
- exterior door, sl	1	ea	75.00	75	
- exterior, dl	1	ea	115.00	115	
- north exterior wall of Police Dept.	646	sf	2.50	1,615	
- roof shingles	4,287	sf	0.45	1,929	
- Auditorium balcony & stage	1	ls	2,500.00	2,500	
- exterior fire escape	1	ls	425.00	425	
- rear addition including foundations, etc complete	200	sf	12.00	2,400	
- south exterior wall of Town Hall	1,518	sf	2.50	3,795	
- planter & patio to front of Police Dept.	1	ls	750.00	750	
- miscellaneous demolition	1	ls	3,500.00	3,500	
- temporary shoring & support	1	ls	1,500.00	1,500	
- make safe MEP equipment before work commences	1	ls	1,250.00	1,250	
- protection to extg structure, etc	1	ls	2,500.00	2,500	
- temporary screens for noise & dust control	1	ls	1,500.00	1,500	
- remove rubbish off site	1	ls	7,500.00	7,500	103,707
<u>New Column Footings</u>					
Cut extg sog	280	lf	7.00	1,960	1,960
<u>Asbestos Abatement/Lead Paint OSHA procedures</u>					
Asbestos abatement, allow	1	ls	12,500.00	12,500	
Lead paint abatement	1	ls	5,000.00	5,000	17,500
<b><u>Demolition/Alteration</u></b>	<b><u>Total</u></b>			<b>123,167</b>	<b>123,167</b>
<b><u>Excavation, Etc.</u></b>					
<u>Earthwork</u>					
Excavate/part backfill/part remove off site to:-					
- new column footings	54	cy	65.00	3,510	
Subbase below new sog, 4" gravel bed & 2" sand	490	sf	3.00	1,470	
Allow for:-					
- rock removal during excavation work, allow 5% (EO)	3	cy	65.00	195	
- water removal during excavation work	1	ls	650.00	650	5,825
<b><u>Excavation, Etc.</u></b>	<b><u>Total</u></b>			<b>5,825</b>	<b>5,825</b>
<b><u>Concrete</u></b>					

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Cast-in-Place Concrete</u>					
Cast in place concrete including formwork & reinforcement to:-					
- column footing	7	cy	725.00	5,075	
- sog	490	sf	9.64	4,724	
Form neat joint between new & extg sog	280	lf	8.00	2,240	12,039
<b>Concrete</b>	<b>Total</b>			<b>12,039</b>	12,039
<u>Masonry</u>					
No work in this Division					
<b>Masonry</b>	<b>Total</b>			<b>0</b>	0
<u>Metals</u>					
<u>Structural Steel</u>					
Pipe column from Basement to 1st Floor	10	ea	789.48	7,895	
Pipe column from 1st Floor to 2nd Floor	20	ea	921.06	18,421	
Base plate for ditto	30	ea	175.00	5,250	
Connection at top for ditto	30	ea	125.00	3,750	35,316
<u>Miscellaneous Metals</u>					
Allow for work to extg stair	2	flr	1,500.00	3,000	
Access ladder to Attic	1	ea	875.00	875	
Bearing plates	1	ls	1,250.00	1,250	
Miscellaneous metal framing - allowance	2,680	lb	2.10	5,628	
Miscellaneous framing @ floor opgs for MEP - allow	1	ls	1,500.00	1,500	12,253
<b>Metals</b>	<b>Total</b>			<b>47,569</b>	47,569
<u>Wood &amp; Plastics</u>					
<u>Rough Carpentry</u>					
LVL beam	230	lf	20.00	4,600	
Support for LVL @ bearing point	10	ea	185.00	1,850	
- 12' 0" x 5' 0"	1	ea	1,500.00	1,500	
Joist hanger to all 1st Floor beams and sill supports	45	ea	45.00	2,025	
Joist hanger to all 2nd Floor beams supports	20	ea	45.00	900	
Joist hanger to all Attic truss bottom chord supports	20	ea	45.00	900	
Sister all broken 1st & 2nd Floor joists, allow	1	ls	1,000.00	1,000	
Sister all 1st & 2nd Floor joists supporting heavy concentrated floor loads, allow	1	ls	1,500.00	1,500	
Sister all Attic joists at new equipment locations, allow	1	ls	1,000.00	1,000	
Patch plywood sub floor as required	500	sf	2.00	1,000	
Repairs to extg exterior wall framing, allow	250	sf	2.25	563	
Repairs to extg roof framing, allow	1	ls	500.00	500	
Patch plywood roof sheathing as required	200	sf	2.20	440	
Repair extg timbers as required	1	ls	500.00	500	
Cut in ventilation in soffit, allow	1	ls	850.00	850	
2" x 4"/6" wood studs to interior partitions	7,128	sf	2.10	14,969	
Wood framing to demolished walls @ Police Dept. & Town Hall	2,164	sf	2.20	4,761	

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
Wood blocking	1,084	lf	2.95	3,198	42,055
<u>Interior Finish Carpentry</u>					
Oak bead board wainscotting	349	lf	48.00	16,752	
Oak chair rail	349	lf	12.00	4,188	
Oak base	349	lf	12.00	4,188	
6" oak door casing to interior doors	782	lf	10.00	7,820	
6" oak casing to exterior windows/doors	692	lf	10.00	6,920	
Allow for miscellaneous trim, etc	150	lf	12.00	1,800	41,668
<u>Exterior Finish Carpentry</u>					
Trim to exterior windows/doors	692	lf	12.00	8,304	
Fascia/soffit	281	lf	15.00	4,215	12,519
<b><u>Wood &amp; Plastics</u></b>	<b>Total</b>			<b>96,242</b>	96,242
<b><u>Thermal &amp; Moisture Protection</u></b>					
<u>Building Insulation</u>					
2" rigid insulation below sog	490	sf	2.00	980	
Fiberglas insulation to:-					
- exterior walls	2,414	sf	1.10	2,655	
- interior walls	9,292	sf	1.00	9,292	
- floor of Attic	200	sf	1.20	240	13,167
<u>Air/Vapor Barrier System</u>					
Vapor barrier to:-					
- sog	490	sf	0.45	221	
- exterior wall	2,414	sf	0.45	1,086	
- roof	200	sf	0.45	90	1,397
<u>Wood Siding</u>					
Cedar wood siding to exterior walls, repairs only, allow	250	sf	8.00	2,000	
Cedar trim to siding, repairs only, allow	200	lf	6.00	1,200	3,200
<u>Roofing</u>					
Architectural shingles w/felt	4,287	sf	3.60	15,433	
Ridge vent	89	lf	8.00	712	
Edge detail w/flashing	281	lf	6.00	1,686	17,831
<u>Gutters and Downspouts</u>					
Gutter, aluminum	163	lf	12.50	2,038	
Downspout, aluminum	180	lf	9.50	1,710	3,748
<u>Firestopping</u>					
Allow	1	ls	850.00	850	850
<u>Sealant</u>					
Exterior sealant to:-					
- windows & doors	698	lf	2.00	1,396	
- fascias, gutters & trim in cedar wall & roof	843	lf	2.00	1,686	
Interior sealant to:-					
- new interior partitions	2,592	lf	1.25	3,240	
- windows & doors	760	lf	1.75	1,330	
- plumbing fixtures, etc	78	ea	20.00	1,560	
- miscellaneous, interior, etc.	1	ls	500.00	500	9,712

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<b>Thermal &amp; Moisture Protection</b>	<b>Total</b>			<b>49,905</b>	49,905
<b>Doors &amp; Windows</b>					
<u>Interior Doors</u>					
SL panelled oak door w/hollow metal frame, hardware, etc	23	ea	1,186.00	27,278	
EO for half lite	23	ea	215.00	4,945	
EO for fire rating	12	ea	115.00	1,380	33,603
<u>Exterior Doors</u>					
DL wood door & frame, hardware, etc	1	ea	2,945.00	2,945	2,945
<u>Exterior Windows</u>					
Aluminum clad wood windows w/insulating glass, hardware, etc	833	sf	75.00	62,438	62,438
<u>Access Doors</u>					
Allow	1	ls	1,250.00	1,250	1,250
<u>Interior Windows</u>					
Glass to service window	144	sf	65.00	9,360	
Hollow metal glazed window/sidelights	56	sf	55.00	3,080	12,440
<u>Rolling Counter Grille</u>					
Rolling counter grille to counters on 1st Floor, manual (3#)	24	lf	390.00	9,360	9,360
<b>Doors &amp; Windows</b>	<b>Total</b>			<b>122,036</b>	122,036
<b>Finishes</b>					
<u>Drywall</u>					
5/8" gwb w/veneer plaster to interior partitions	18,584	sf	2.35	43,672	
5/8" gwb w/veneer plaster to inside face of exterior wall	5,962	sf	2.35	14,011	
Metal furring & 5/8" gwb w/veneer plaster to extg exterior wall	1,276	sf	4.60	5,870	63,553
<u>Floor Finishes</u>					
Porcelain tile	186	sf	16.50	3,069	
Carpet	6,030	sf	3.75	22,613	
Cork flooring	1,440	sf	10.00	14,400	
Rubber flooring to stairs/landings	2	flr	1,275.00	2,550	
Tile base	83	lf	14.00	1,162	
Vinyl base	1,838	lf	3.50	6,433	50,227
<u>Ceiling Finishes</u>					
Veneer plaster ceilings to Bathrooms	186	sf	8.00	1,488	
2' x 4' ACT	6,030	sf	3.55	21,407	
2' x 2' ACT	1,440	sf	4.00	5,760	28,655
<u>Wall Finishes</u>					
Patch Police Dept wall	646	sf	2.00	1,292	
Paint to walls	25,822	sf	0.95	24,531	25,823
<u>Paint</u>					
Paint to:-					



Description	Qty	Unit	Rate	Amount	CSI Sec Totals
- extg stair w/railings, etc complete	2	flr	475.00	950	
- access ladder to Attic	1	ea	175.00	175	
- wainscotting	1,047	sf	1.75	1,832	
- exterior/interior trim	3,014	lf	2.50	7,535	
- fascia/soffit	281	lf	6.00	1,686	
- cedar siding, new & extg	6,849	sf	1.25	8,561	
- cedar trim, new & extg	680	lf	2.50	1,700	
- sl door & frame, interior (both sides measured)	46	ea	65.00	2,990	
- dl door & frame, exterior (both sides measured)	2	ea	70.00	140	
- interior window (both sides measured)	112	sf	3.50	392	
- exterior painting	10,370	sf	2.25	23,333	
- miscellaneous items	1	ls	1,000.00	1,000	50,294
<b>Finishes</b>	<b>Total</b>			<b>218,551</b>	218,551
<b>Specialties</b>					
<u>Signage</u>					
Building directory	1	ea	3,500.00	3,500	
Glass enclosed and locked cork notice board	1	ea	1,250.00	1,250	
Interior signage, allow per door	24	ea	100.00	2,400	7,150
<u>Fire Extinguishers</u>					
Fire extinguisher w/cabinet	4	ea	385.00	1,540	1,540
<u>Louvers</u>					
Allow	50	sf	65.00	3,250	3,250
<u>Expansion Joint Covers</u>					
Expansion joint & cover, allow	57	lf	25.00	1,425	1,425
<u>Toilet Accessories</u>					
Toilet accessories to:-					
- toilet room	4	ea	1,500.00	6,000	
- janitor room	2	ea	200.00	400	6,400
<b>Specialties</b>	<b>Total</b>			<b>19,765</b>	19,765
<b>Equipment</b>					
No work in this Division					
<b>Equipment</b>	<b>Total</b>			<b>0</b>	0
<b>Furnishings</b>					
<u>Casework</u>					
Plam casework:-					
- vanity countertop w/backsplash & fascia	12	lf	135.00	1,620	
- base cabinet w/countertop to Break Room/Copy on 1st Floor	13	lf	345.00	4,485	
- wall cabinet	70	lf	170.00	11,900	
- Service Counter @ 1st Floor	24	lf	775.00	18,600	36,605

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
<u>Window Shades</u>					
Window shades to exterior windows, manual	833	sf	7.00	5,828	5,828
<b><u>Furnishings</u></b>	<b><u>Total</u></b>			<b>42,433</b>	42,433
<b><u>Special Construction</u></b>					
No work in this Division					
<b><u>Special Construction</u></b>	<b><u>Total</u></b>			<b>0</b>	0
<b><u>Conveying Systems</u></b>					
No work in this Division					
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>				
Builders work in connection with Conveying Systems @ 3%	1	ls			
General Contractor's overhead and profit @ 5%	1	ls			
<b><u>Conveying Systems</u></b>	<b><u>Total</u></b>			<b>0</b>	0
<b><u>Plumbing</u></b>					
Sanitary fixtures complete w/pipework, accessories, etc:-					
- water closet	4	ea	3,500.00	14,000	
- lavatory in vanity countertop	4	ea	3,350.00	13,400	
- janitor sink	2	ea	3,550.00	7,100	
- sink Break room	1	ea	3,150.00	3,150	
- drinking fountain	2	ea	2,675.00	5,350	
- hydrants, clean outs, etc.	1	ls	750.00	750	
Point of use electric water heater	3	ea	1,500.00	4,500	
Water service	1	ls	2,000.00	2,000	
Gas service	1	ls	3,000.00	3,000	
Allow for access panels	1	ls	350.00	350	
Allow for seismic bracing to pipework	1	ls	350.00	350	
Permit fee	1	ls	250.00	250	
Test & balance	1	ls	1,500.00	1,500	55,700
<b><u>Sub Bid</u></b>	<b><u>Total</u></b>			<b>55,700</b>	55,700
Builders work in connection with Plumbing @ 3%	1	ls	1,671.00	1,671	
General Contractor's overhead and profit @ 5%	1	ls	2,868.55	2,869	4,540
<b><u>Plumbing</u></b>	<b><u>Total</u></b>			<b>60,240</b>	60,240
<b><u>Fire Protection</u></b>					

Description	Qty	Unit	Rate	Amount	CSI Sec Totals
Wet sprinkler system (gfa)	11,484	sf	5.50	63,162	
Dry system to Attic (gfa)	4,099	sf	6.00	24,594	
Allow for seismic restraint	1	ls	500.00	500	
Permit fee	1	ls	250.00	250	
Test and balance	1	ls	2,750.00	2,750	91,256
<b>Sub Bid</b>	<b>Total</b>			<b>91,256</b>	91,256
Builders work in connection with Fire Protection @ 3%	1	ls	2,737.68	2,738	
General Contractor's overhead and profit @ 5%	1	ls	4,699.68	4,700	7,437
<b><u>Fire Protection</u></b>	<b><u>Total</u></b>			<b>98,693</b>	98,693
<b><u>HVAC</u></b>					
Equipment (gfa)	7,656	sf	10.00	76,560	
Ductwork (gfa)	7,656	sf	11.00	84,216	
Piping (gfa)	7,656	sf	6.00	45,936	
BMS/ATC (gfa)	7,656	sf	4.00	30,624	
Allow for seismic restraint & vibration isolation	1	ls	1,850.00	1,850	
Test & balance	1	ls	6,000.00	6,000	245,186
<b>Sub Bid</b>	<b>Total</b>			<b>245,186</b>	245,186
Builders work in connection with HVAC @ 3%	1	ls	7,355.58	7,356	
General Contractor's overhead and profit @ 5%	1	ls	12,627.08	12,627	19,983
<b><u>HVAC</u></b>	<b><u>Total</u></b>			<b>265,169</b>	265,169
<b><u>Electrical</u></b>					
<u>Equipment, Panelboards, etc.</u>					
Allow for electrical equipment, panelboards, etc. (gfa)	7,656	sf	1.50	11,484	11,484
<u>Feeders</u>					
Allow for feeders (gfa)	7,656	sf	1.00	7,656	7,656
<u>Small Power</u>					
Allow for small power (gfa)	7,656	sf	3.35	25,648	25,648
<u>Lighting</u>					
Allow for lighting & switching (gfa)	7,656	sf	6.00	45,936	
EO for decorative lighting	6	ea	165.00	990	
Exterior wall light	6	ea	506.00	3,036	49,962
<u>Fire Alarm</u>					
Allow for fire alarm (gfa)	7,656	sf	2.75	21,054	21,054
<u>Security (empty conduit)</u>					
Allow for security system (gfa)	7,656	sf	0.25	1,914	1,914
<u>PA system (empty conduit)</u>					
Allow for security system (gfa)	7,656	sf	0.15	1,148	1,148

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cmcq\mydocs\projects\2008\2008-048 Westford TH. SD. Oct 08

**Gross Floor Areas**

	<b><u>South Expansion</u></b>		<b><u>Link Expansion</u></b>		<b><u>West Expansion</u></b>		<b><u>Renovation</u></b>	
	<b><u>GFA</u></b>	<b><u>Perimeter</u></b>	<b><u>GFA</u></b>	<b><u>Perimeter</u></b>	<b><u>GFA</u></b>	<b><u>Perimeter</u></b>	<b><u>GFA</u></b>	<b><u>Perimeter</u></b>
Basement	0		442	86	0		0	
First Floor	1,596	160	643	117	1,623	168	3,828	271
Second Floor	1,596	160	483	101	1,623	168	3,828	271
<b><u>Total</u></b>	<b><u>3,192</u></b>		<b><u>1,568</u></b>		<b><u>3,246</u></b>		<b><u>7,656</u></b>	

Description	Qty	% of Time Allocated	Unit	Rate	Amount
<b><u>General Requirements</u></b>					
<u>Field personnel</u>					
Field personnel:-					
- project manager	6.50	10%	week	3,350.00	21,775
- project superintendent	65.00	100%	week	2,850.00	185,250
- field engineer	9.75	15%	week	2,450.00	23,888
- MEP co-ordinator	9.75	15%	week	2,450.00	23,888
- laborer	32.50	50%	week	2,200.00	71,500
Main office staff	7.00	10%	week	2,450.00	17,150
<u>Insurance &amp; Bond Cost</u>					
Insurances (includes):-	1.00		ls	73,500.00	73,500
- builders risk					
- general liability					
- vehicle liability					
- pollution liability					
- workers compensation					Included in Labor
- umbrella coverage					
Performance bond.	1.00		ls	55,125.00	55,125
<u>Temporary Utilities &amp; Services</u>					
Temporary utilities & services:-					
- temporary water & sewer service & distribution	65.00		week	25.00	1,625
- temporary water consumed	65.00		week	25.00	1,625
- temporary toilet rental & service	65.00		week	25.00	1,625
- temporary electricity consumed	65.00		week	25.00	1,625
- temporary heating system	65.00		week	25.00	1,625
- temporary heating fuel consumed	65.00		week	25.00	1,625
- emergency diesel generator fuel consumed	65.00		week	25.00	1,625
<u>Additional Categories</u>					
Preparation of progress schedules.	15.00		mth	150.00	2,250
Compilation/preparation of site survey data.	1.00		ls	1,500.00	1,500
Preparation of shop drawings.	1.00		ls	3,500.00	3,500
Construction photographs.	15.00		mth	25.00	375
Temporary construction.	65.00		week	75.00	4,875
Construction aids (safety nets, personnel protection equipment, partial scaffolding, etc)	65.00		week	150.00	9,750
Barriers and enclosures.	65.00		week	35.00	2,275
Security.	15.00		mth	500.00	7,500
Access roads.	65.00		week	25.00	1,625
Temporary controls.	65.00		week	25.00	1,625
Project signs.	15.00		mth	50.00	750
Field offices and sheds	15.00		mth	750.00	11,250
Field office expenses.	65.00		week	175.00	11,375
Equipment rental	1.00		ls	2,500.00	2,500
Snow removal (8 times)	8.00		ea	500.00	4,000
Winter protection	1.00		ls	3,000.00	3,000
Interim cleaning	65.00		week	125.00	8,125
Final cleaning	1.00		ls	4,000.00	4,000
<b><u>General Requirements</u></b>	<b><u>Total</u></b>				<b>563,725</b>

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